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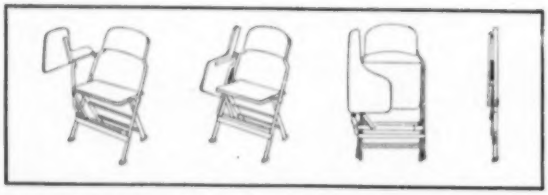

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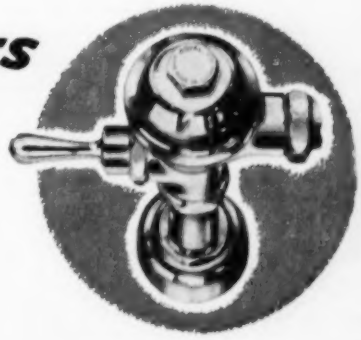

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Vol. 16, No. 1, January 1954

JANUARY 1954

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Among the Authors

Francis J. Brown

FRANCIS J. BROWN, staff associate of the American Council on Education, reports on page 19 the current status of higher education as it may be related to the activities of Congress. Dr. Brown's many official responsibilities with congressional groups and with the armed services permit unusual insight into federal legislative trends as they may affect higher education. He was executive secretary of President Truman's commission on higher education and a member of the advisory board of the United States Armed Forces Institute, and has served on a host of other official boards, commissions and committees.

Eugene E. Cohen

EUGENE E. COHEN, budget officer of the University of Miami, tells how the budget control system at that institution has been effectively implemented (*p.* 24). Mr. Cohen has been budget officer there for four years and, prior to that time, was administrative assistant in the president's office at the university. Before assuming a university post he served as resident auditor in the army air force for 4½ years with several major air force contractors throughout the country. Before he entered military service Mr. Cohen did private accounting work in Miami. His hobby is stamp collecting; his major athletic interest, swimming.

S. Earl Thompson

S. EARL THOMPSON, head of the department of general institutional management, Michigan State College, suggests on page 38 spatial considerations to be kept in mind when planning layouts of student sleeping and study rooms. Before he made his present connection, Dr. Thompson was director of housing at the University of Illinois, during which time the institution made an extensive analysis of residence hall facilities leading to a major construction program. Out of some of that research have come the suggestions he has incorporated in this article. Ever active in college housing circles, Dr. Thompson was responsible for the founding of the National Association of College and University Housing Officers.

William I. Rosamond

WILLIAM IRBY ROSAMOND, architect of Columbus, Miss., on page 44 describes the new classroom building at Mississippi State College for Women. Mr. Rosamond received his B.S. degree in architecture from Georgia Institute of Technology, but entered the investment banking and mortgage business in Memphis, Tenn., after his graduation. During World War II he served for five years as an army officer, after which he began the active practice of architecture. The board of trustees of higher education in the state has selected Mr. Rosamond to do work both at Mississippi State College for Women and at the university. Mr. Rosamond is active in civic affairs and veterans' organizations and has carried major responsibilities in the American Red Cross, having been fund chairman and treasurer in Columbus.

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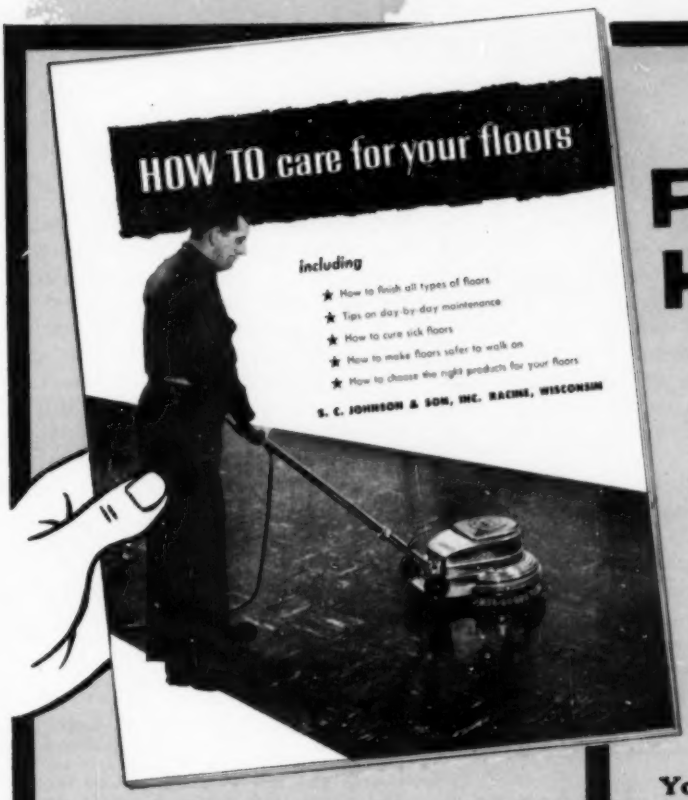
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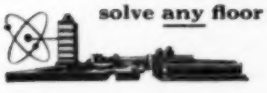

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Questions and Answers

What Employe Wants to Know

Question: What in general does the employe want in communications that he might receive from management, i.e. is he primarily interested in information on work conditions, business trends affecting his office operations, personnel news, what?—S.C., Ill.

ANSWER: What the employe wants and what the employer wishes he'd want are, of necessity, rather different things. The employer thinks of his various methods of communication as aids in promoting greater productivity through better understanding of the employer's problems and realization of the importance of the individual on his own job. He wants to get away from the "I just work here" attitude and to stimulate a feeling of loyalty in the employe to his job and to his employer and to instill the conviction that he is a good employer to work for.

Much of the communications effort, no matter what medium is used, is in this sense employer propaganda, which he hopes will have some bearing on the positive approach to these needs of his own. The employe often responds to skillful treatment of this subject because, after all, all of us have our own sense of pride that makes us respond to the appeal of anyone who indicates that our opinion is important enough for him to try to influence it. To the degree that this approach brings about a greater sense of participation in a joint enterprise, it can be useful. To say, however, that it is what the employe *wants* is something else again.

We believe that the average employe would really like to know and be kept informed about the following points:

1. Anything that affects his job security is extremely important. The general condition of the business is something he is interested in.

2. He wants to know, and right now, the reasons behind any change that affects his own personal working conditions. These changes might relate to changes in company structure, product, financial status, mechanical development, or any one of a number of things. And if these changes are going to make any difference in how he does things and under what surroundings and circumstances, he wants to know why.

3. He wants to be kept informed as to his opportunities for personal advancement—whether or not he is in a dead-end job, or whether he has a chance, if he deserves and earns it, to move on up.

4. Next, and not quite so consciously, he wants the feeling of being useful. Most employes appreciate information that relates their specific job to the over-all enterprise of which they are a part.

5. Then, he wants to know the employer attitudes on issues that are of importance to him. For example: If a union is engaged in an organizing drive, the average employe, while he may not admit it, is much interested in how his employer is looking at the matter.

6. Generally, in relation to all these things and everything else, he wants to be able to get at the facts of any matter that interests him in areas where rumors tend to spread. Every employer should be alert to situations of this type and see to it that the real lowdown is available as quickly and as generally as possible.

7. Finally, and almost overshadowing everything else, the employe wants to know the conditions on which the employer bases his schedules of pay and other benefits, as compared with others to whom he compares himself. Most people looking at their own status are inclined to be satisfied with it. If, however, they look at that of another individual with whom they are in a position to compare themselves as being either equal, more important, or less important, and find what seems to be discrepancies in the employer's evaluation as indicated by the compensation factor, they can get unhappy in a hurry. This means that, whether or not a union is in the picture, an employer should be very sure that his employes understand the principles of his position classification and salary administration programs in order that they may apply these fairly in making judgment on these matters of internal comparison.—DONALD E. DICKASON, *director of nonacademic personnel, University of Illinois.*

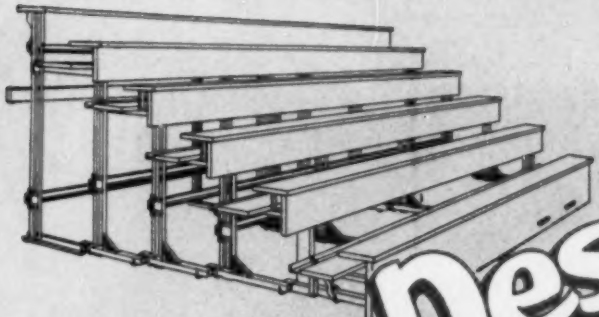
Use of Code 9079

Question: Why has the North Central Compensation Rating Bureau now disallowed the use of Code 9079 for colleges and universities when they are operating bona fide food services and abiding by all of the restaurant requirements of the local health department?—C.H., Neb.

ANSWER: Workmen's compensation insurance classifications and rates are made up along the lines of industry. Two classifications and rates have been established to cover all operations that normally are conducted by colleges or schools. These two classifications are as follows:

COLLEGES OR SCHOOLS:
Professors, teachers or professional employes, including clerical office employes..8868
All other employes.....9101

These two classifications are intended to apply to all operations normally conducted by a college or school, including a restaurant. The rates for the aforementioned classifications are made up on the entire exposure. Therefore, the exposure in a college or school restaurant is reflected in the aforementioned rates.—W. J. GISSENDANNER, *manager, North Central Compensation Rating Bureau.*



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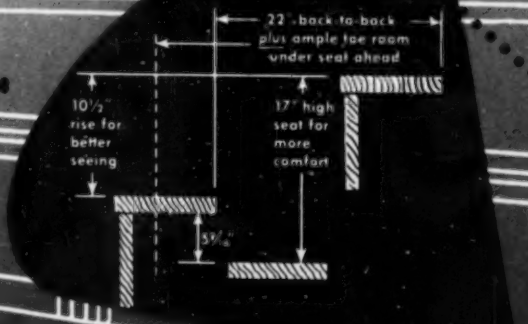

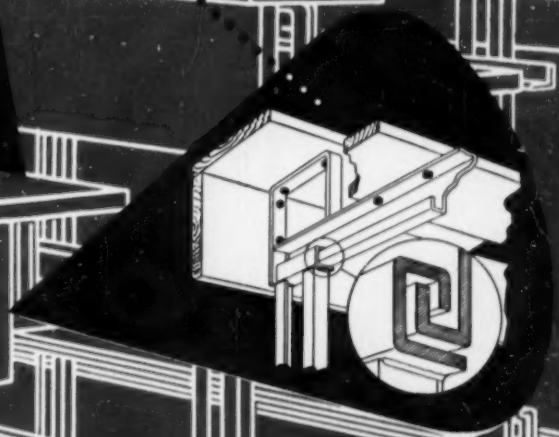

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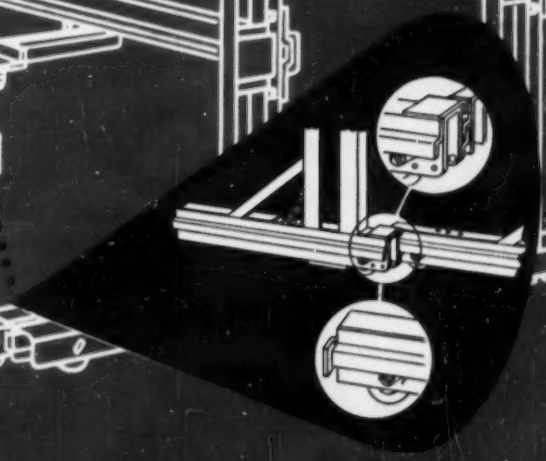

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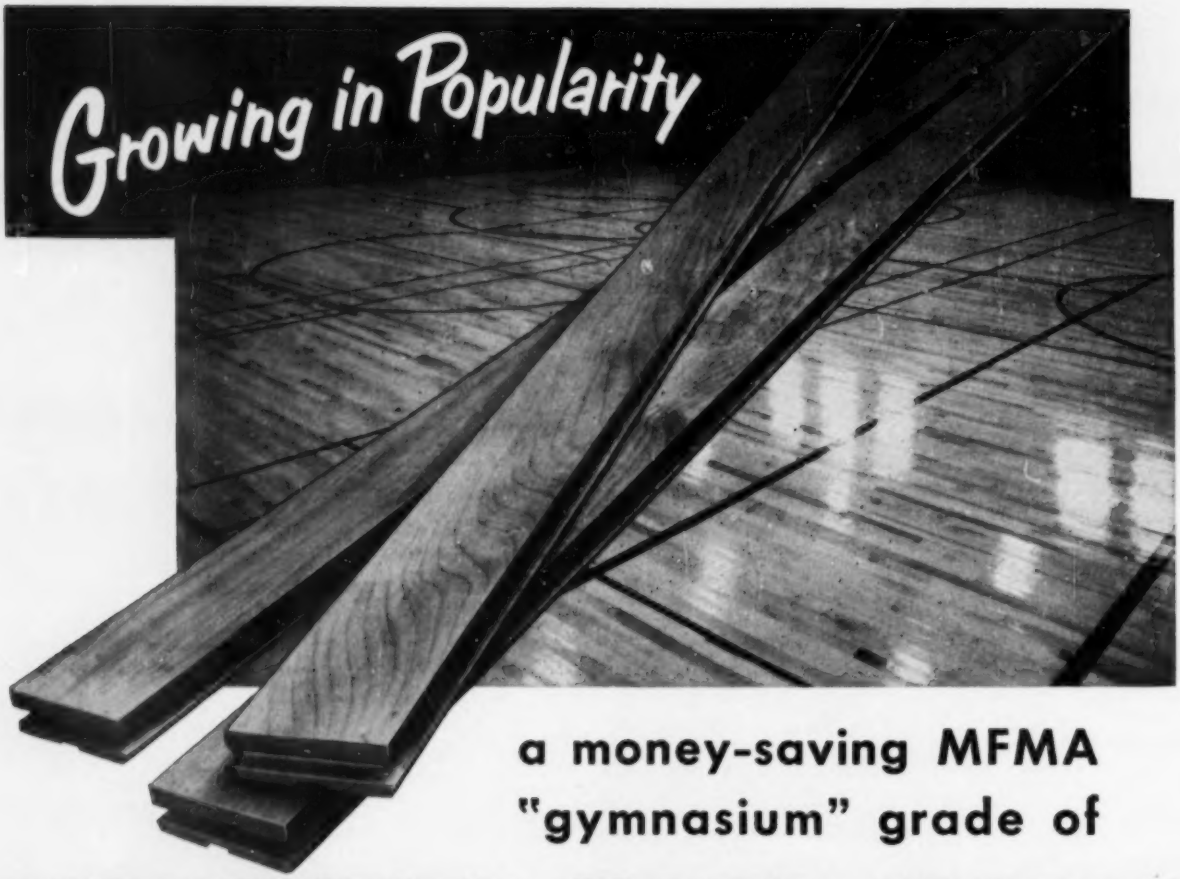

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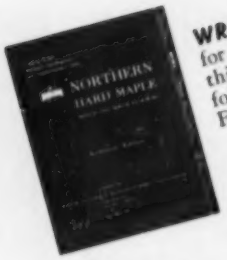

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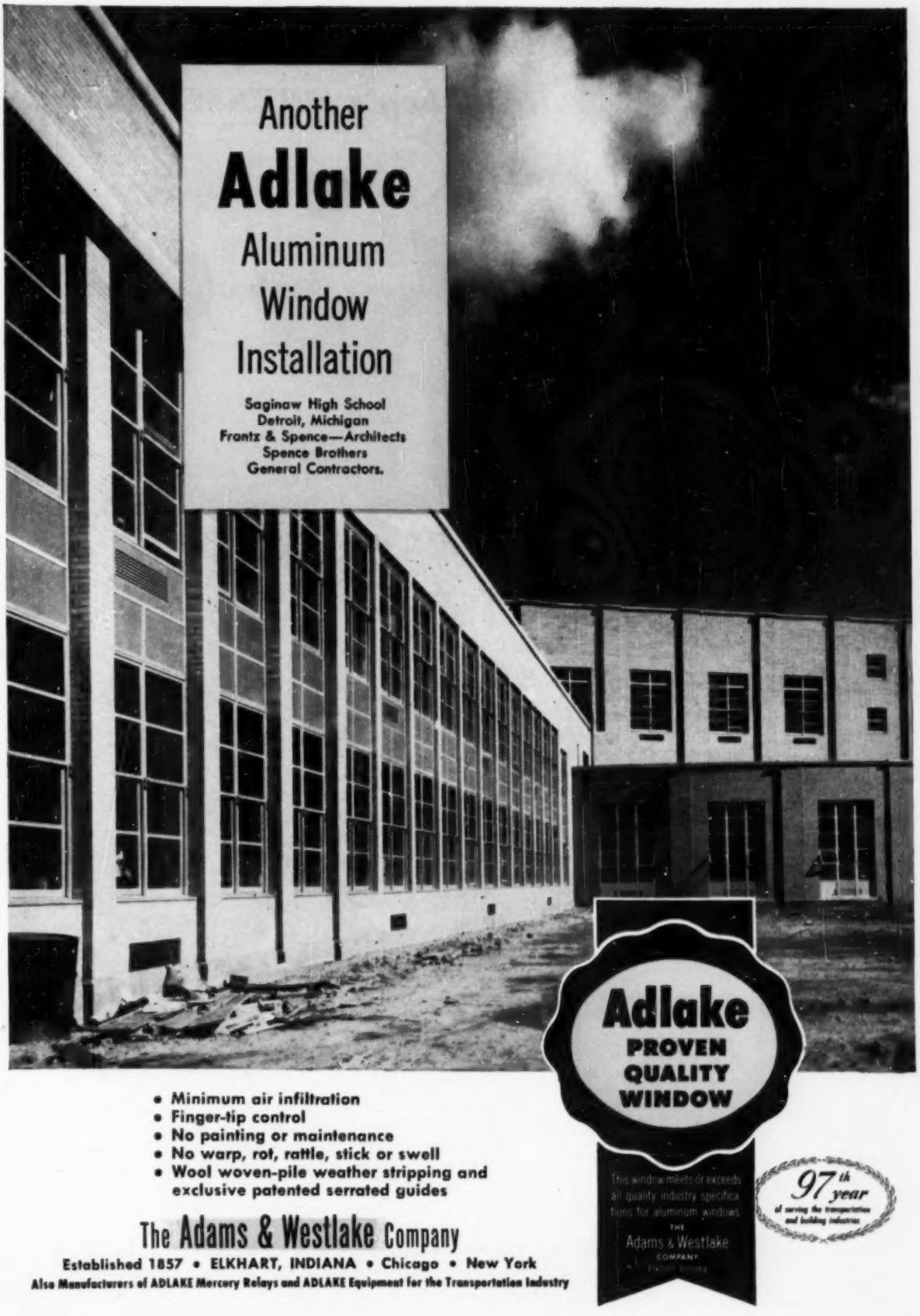

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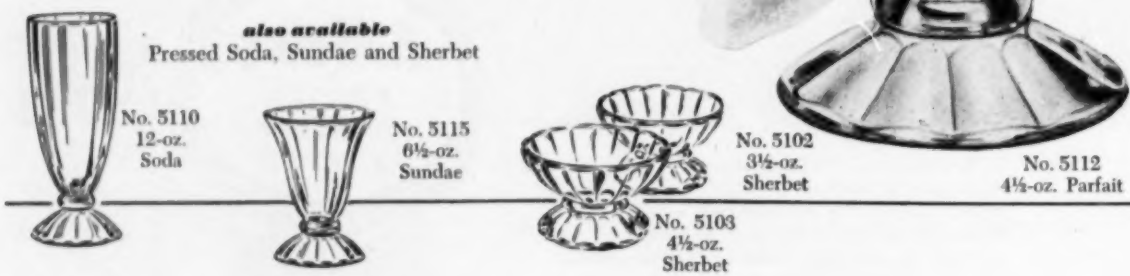

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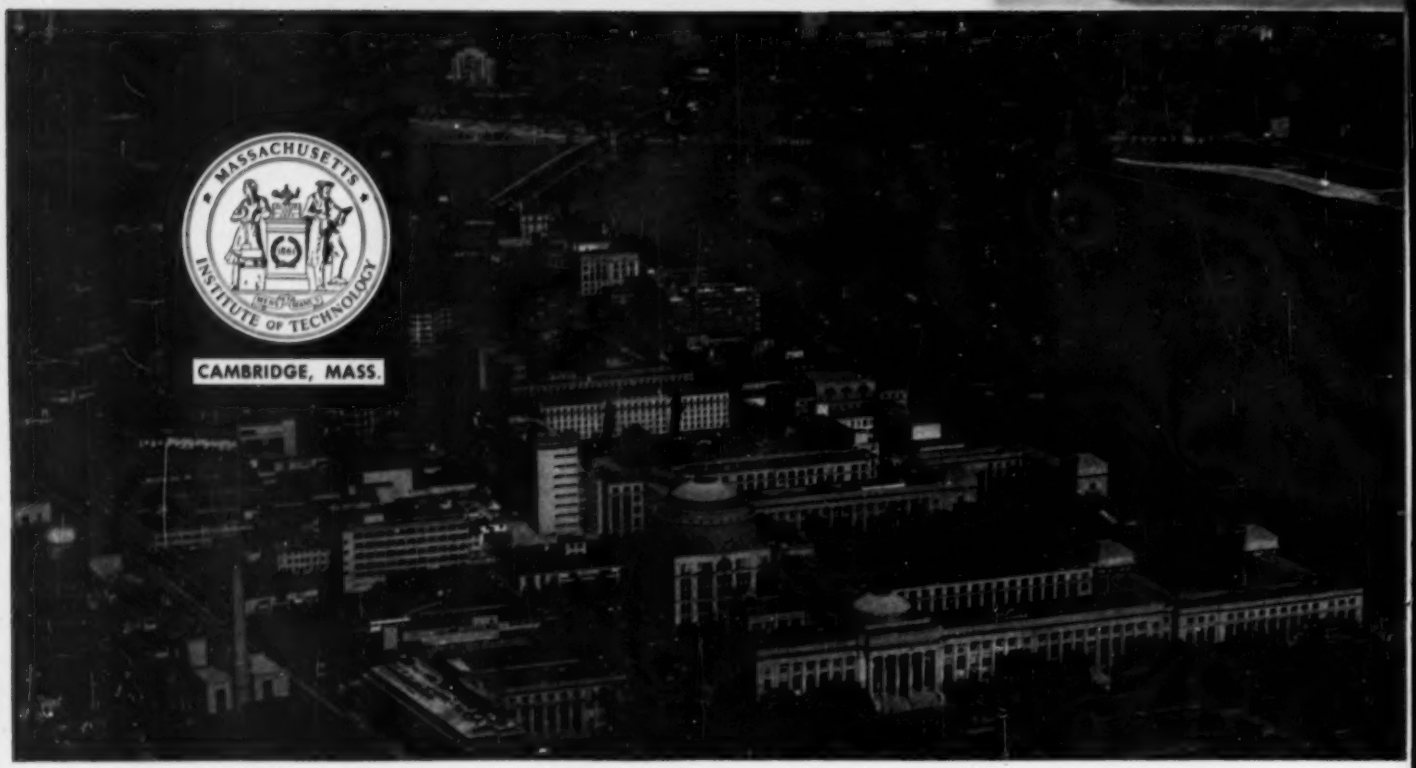

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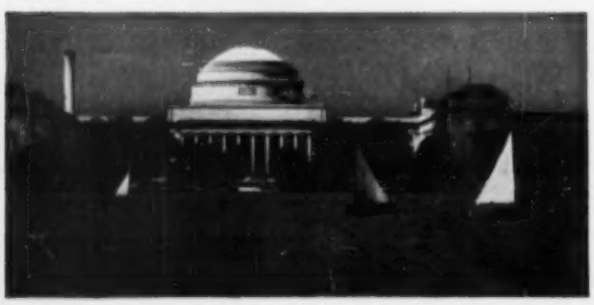

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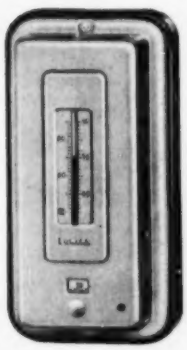

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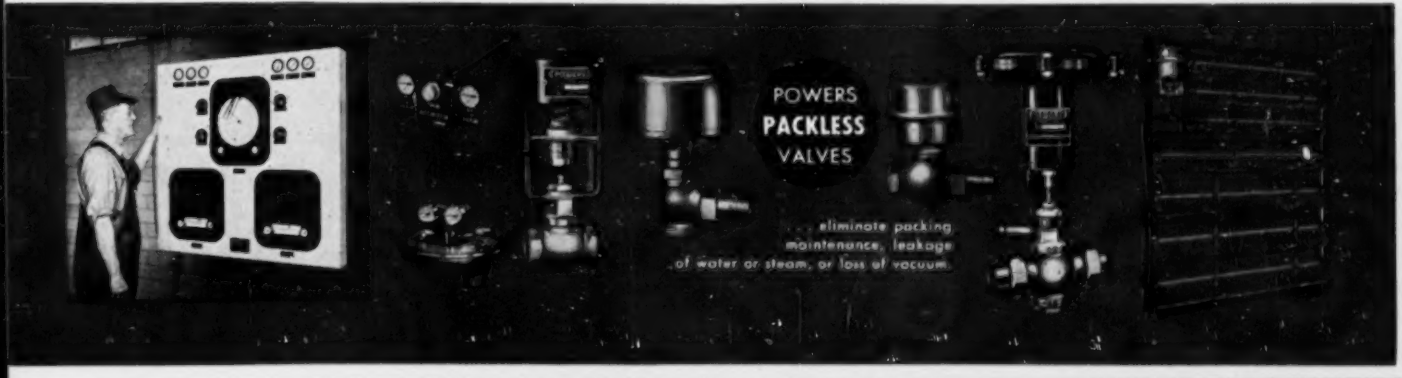

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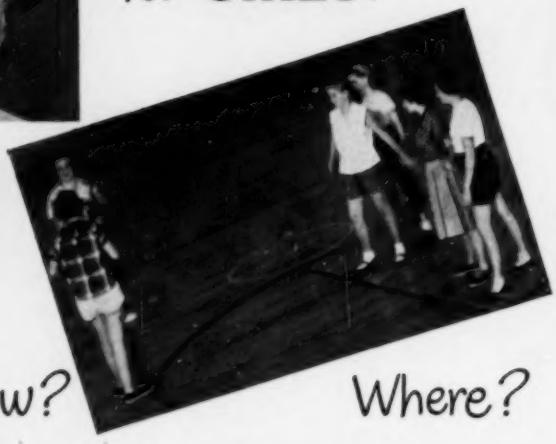

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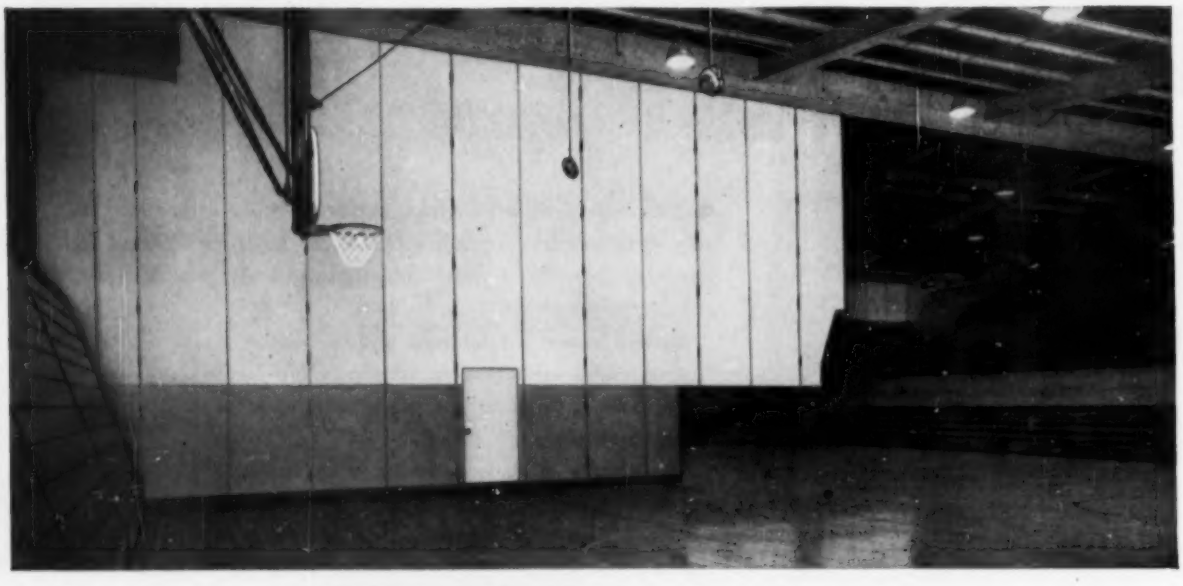

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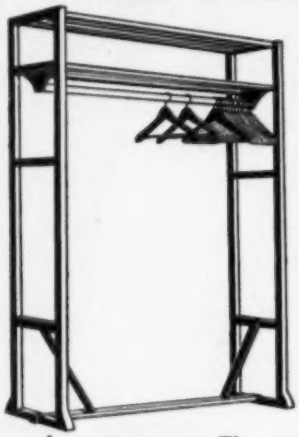

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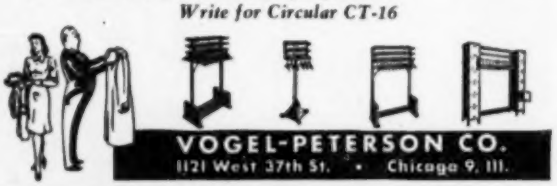

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GUEST EDITORIAL

TO DISPEL ANXIETY OVER COLLEGE R.O.T.C.

JOHN A. HANNAH
Assistant Secretary of Defense
Washington, D.C.

THE CURRENT DEPARTMENT OF DEFENSE POLICY with respect to R.O.T.C. graduates provides that only such numbers of graduates as can be utilized as officers on active duty will be commissioned immediately upon graduation. The graduate not commissioned immediately will receive a certificate of completion that will entitle him, if still qualified, to appointment as a reserve officer after he has discharged his national service obligation of two years' active service in other than commissioned status.

It would be desirable to assign all R.O.T.C. graduates to duty immediately as officers and thereby enable them to fulfill their obligation in a commissioned status. However, since the services will be unable to utilize them within their lowered officer personnel ceilings, the Department of Defense was confronted with the serious problem of developing a policy that would provide for the disposition of an R.O.T.C. output, for which there were insufficient officer spaces within the active forces.

In the formulation of the present policy a factor of major consideration was the declared intent of the Congress as stated in the Universal Military Training and Service Act, as amended, "that in a free society the obligations and privileges of serving in the armed forces and the reserve components thereof should be shared generally, in accordance with a system of selection which is fair and just, and which is consistent with the maintenance of an effective national economy."

In seeking a solution to the problem there appeared to be two possible courses of action: (1) to reduce the size of the R.O.T.C. enrollment to avoid an output that would exceed the number of active duty commissioned officer spaces available for the new officers, or (2) to continue the current enrollment subject to the conditions specified in the present policy. The far-reaching effects of the first course can be readily envisioned. The second course offers the students an opportunity to complete their education and R.O.T.C. training; it avoids the ill effects that sudden drops in enrollment would have had upon institutions; it assures the future well-being of our reserve components, the vitality of which is dependent upon a steady input of junior officers. The issuance of certificates of completion to certain R.O.T.C. graduates will provide for their eventual appointment to commissioned status and maintain the essential production of officers.

In passing judgment on the current R.O.T.C. policy some have been prone to condemn it as a breach of contract on the part of the government. In order to clarify this misunderstanding it is considered only necessary to cite the significant portion of the contract signed by A.F.R.O.T.C. students in which they "agree to complete the basic course, if enrolled therein; to enroll in and complete the advance course at the proper time, if accepted therefor; upon completion or termination of the course of instruction therein, to accept a commission, *if tendered.*" While I have used a portion of the air force R.O.T.C. contract as an illustration, the contracts of the other services contain a similar provision.

It is felt that an objective examination of the present policy will be reassuring since, aside from the feature of delay in commissioning, there are still advantages for those presently enrolled or those who are contemplating enrollment. Students are accorded the opportunity to complete their education under R.O.T.C. deferment. Institutions conducting R.O.T.C. training may continue their programs, and while some graduates will attain their commissioned status only after enlisted service, the production and vital flow of junior officers into our reserve components will be maintained.

With respect to the future, it is not anticipated that there will be a change in the present policy of requiring R.O.T.C. graduates to serve on active duty so long as Selective Service calls continue. It may become necessary to effect some reduction in the number of R.O.T.C. units.

The events that dictated R.O.T.C. policy changes have caused serious concern in college circles. The policy adopted was one that it was believed would solve the problem with the minimum impact on all concerned.

Colleges and universities have done a magnificent job over the years in preparing young men to serve their country as officers of the army, navy and air force. The R.O.T.C. programs have been a source of great strength when it has been necessary to expand our armed forces.

Looking Forward

Professional Complacency

COLLEGE ADMINISTRATORS MUST GUARD THEMSELVES against the complacency that is engendered by in-breeding. At conventions and conferences they listen to their professional associates who cannot be expected, in most cases, to do much apple-cart upsetting. The climate becomes one of self-satisfaction, and little sense of urgency remains in regard to creative thinking on controversial administrative problems. It's doubtful that professional growth is enhanced.

Observers, consultants and others outside the field of higher education have much to contribute to administrative philosophy and technics. Some college administrators appear thin-skinned in regard to criticism of their technics, and damn the criticism as being professionally incompetent. In a few cases this may be true, but not so frequently as some college executives would like to believe. Management consultants and others of professional competence are frequently in a much better position objectively to evaluate the business and operational practices of a college than is the college executive himself. Outsiders do not stand in awe of campus sacred cows as does the fellow who lives with them.

Convention programming exhibits the same weakness. Program committees schedule what they want to hear, rather than what they should hear. Mutual admiration is comforting but gives little promise of genuine leadership and pioneering. Somehow or other, the critic is seldom the most popular convention program item, but in the hours of sober reflection he may turn out to have been the most significant and effective.

Dollars and Cents Pressure

THERE IS TALK AROUND WASHINGTON CIRCLES THAT there will be a vigorous drive to amend Public Law 550, the Korean G.I. bill. A substantial portion of private colleges seems to feel that the law constitutes discriminatory legislation against them because the educational grants are made to the veteran direct and not, in part, to the institution.

One legislator has been quoted to the effect that the pressure on congressmen will be "dollars and cents" pressure from many of the institutions that are feeling "dollars and cents" pressure on campus because of decline in income.

In a democratic society based upon the principle of free choice, legislation that provides an educational subsidy or grant for all veterans who qualify should be considered an excellent demonstration of practical democracy. Apparently some private colleges don't trust democracy that much and want to be assured in advance of some share of the loot.

The effort to amend Public Law 550 in favor of a partial allocation to institutional coffers may be successful. One proposal calls for an allocation of $80 to the veteran and $30 to the college, as against the present allocation of $110 to the student exclusively. If the proposal meets with success, it will be an excellent example of successful lobbying pressure and a compromise with the traditionally proud ideal of remaining free from the restraints of tax support control. The amazing thing is that so many private colleges are eager to compromise for 30 pieces of silver.

Hope Springs Eternal

THE BEGINNING OF A NEW YEAR SEEMS TO BE A time when everybody gets in the optimistic mood. The virus probably affects college administrators in the same way it does other mortals: a hope for better things in the future and a wistful look back at what might have been.

Budgets were going to be balanced in 1953; some were, but many missed the mark. Staff relationships were to be of the best; but some still blew up in the administrator's face. Department improvements were in the cards, but often died in committee. Buildings were going to be built; many never got off the drawing board. Fund raising got a good start, but it could have been much livelier.

Many things make 1953 an unforgettable year, but the universal hope is that 1954 will be brighter. Samuel Johnson put it well: "It is necessary to hope, though hope should be always deluded; for hope itself is happiness, and its frustrations, however frequent, are yet less dreadful than its extinction."

Photograph courtesy of Chicago Public Schools

Morale was low in a certain department so University of Chicago used employe inventory as device for communication between the employes and supervisors

A case report on EMPLOYE MORALE

ANITA S. SANDKE
Field Representative, Personnel Office, University of Chicago

WHEN A CHANGE OF ADMINISTRATION occurred in one of our large nonacademic clerical departments, attention was focused on the low morale of the employes within the department. Rather than generalize about the causes of this low morale, thereby encouraging the use of hit-and-miss methods in correcting them, ways were sought to pin-point specific trouble areas so that constructive action in those specific areas might be taken.

As the first step in accomplishing this, the personnel office recommended the use of the SRA Employee Inventory[1] objectively to measure the level of morale in the department. The department itself is divided into six subdepartments and the level of morale varied between them. However, for the sake of simplicity and brevity this report is confined to morale in the department as a whole.

The supervisors accepted the idea of the inventory warmly, and agreed to be the first group in the department to take it. Following its administration to the supervisory group, the entire department took it in May 1952 and again in May 1953. The second administration was a follow-up study to determine any gains or losses in morale during the year. Members of the personnel office administered the inventory, and the employes were carefully assured of their anonymity by the procedures that were followed. By assuring their anonymity, we hoped that the employes would be encouraged to state frankly and fully their attitudes and complaints regarding the work situation.

INVENTORY

Briefly, the inventory[2] consists of 78 statements requiring "agree," "?" or "disagree" responses. Although the format is arranged in omnibus fashion, for purposes of scoring the statements are grouped into 15 categories: (1) job demands, (2) working conditions, (3) pay, (4) employe benefits, (5) friendliness and cooperation of fellow employes, (6) supervisor-employe interpersonal relations, (7) confidence in management, (8) technical competence of supervision, (9) effectiveness of administration, (10) adequacy of communication, (11) security of job and work relations, (12) status and recognition, (13) identification with the company, (14) opportunity for growth and advancement, and (15) reactions to the inventory.

In addition to their responses to these statements, the employes are encouraged to make comments of any kind relating to their work situation in spaces provided for the purpose on the answer pad.

Results are obtained for the inventory as a whole, which reflects the general morale level, for the categories, which indicate the pattern of attitudes within the department, and for the individual items. The results are then shown graphically on profile sheets so that the particular department can be compared with other organizations[3] on which the inventory was standard-

[1]SRA Employee Inventory, Science Research Associates, Chicago.

[2]For a complete description of the inventory see "General Manual for the SRA Employee Inventory," Science Research Associates, Chicago, second edition, January 1952.

[3]The inventory was standardized on industrial groups, but the norms were considered valid for our purposes because they included comparable clerical groups.

ized and so that groups within the department may be compared.

The results of the first survey, in 1952, indicated that morale was indeed poor in this department, with the general morale level falling in the "low" range or about the 25 percentile when compared with industrial organizations. Results in most of the categories clustered around this general morale level also. However, the "pay" category was significantly below this level, and the two categories of "working conditions" and "supervisor-employe interpersonal relations" were significantly above it. Although neither of the latter two categories rose above the level of "average," they were regarded as significant strong points in a department with such poor general morale.

The written comments, of which a large number were received, were extremely valuable. When these were tabulated according to categories, they were found to center on dissatisfactions about pay, insecurity resulting from changes made in the work situation, brevity of rest periods, and lack of opportunity for advancement.

Although the large number of comments indicated that the employes were bitter about a great many things, the volume also was regarded as a hopeful sign, for it showed that the employes were not numb to the work situation or completely without hope in regard to it.

RECOMMENDATIONS

The matter of pay seemed to be the greatest cause for dissatisfaction, but before rates could be investigated it was strongly recommended that all jobs in the department be reevaluated. Analysis of the items in the category on pay showed that dissatisfaction arose not only from employes' feelings of inadequate pay but also from a feeling of inequitable pay. Reevaluation therefore would assure equitable pay for equitable work as well as ensure that the classification of jobs would be based solely on the actual work performed.

Merit review was recommended to follow job classification, so that once equitable pay was established the employe could know that he would advance along the salary scale according to his job performance. This would also be true of promotions within the department.

Encouragement of employe participation was recommended. The employe's help, of course, was enlisted in the program of job evaluation as a first step.

Midway in the year, a retirement program for all nonacademic personnel was instituted and given university-wide publicity.

The department head had been urged to notify the employes in writing of the results of the inventory and to thank them for their cooperation. This was done by letter several months following the first survey. By this means, the employes were told of job evaluations and their help was solicited to see that their jobs were properly classified.

The letter also attempted to answer some of the written comments, such as those about the 10 minute rest period that they were then allowed. The letter officially extended this time to 15 minutes. Later in the year, employes also were permitted to brew coffee at specific times in the office, the 15 minute rest period still being maintained.

RESULTS IN 1953

In 1953 we were able to measure any gains and losses made during the year. For the department as a whole, the general morale level rose only slightly, falling in about the 28 percentile. However, "employe benefits" and "security of job and work relations" rose so that they are significantly above the results of 1952. Analysis of the items of these categories leads us to believe that the retirement plan influenced the rise in "employe benefits" and that the job classification influenced the rise in "security of job and work relations." The latter has given them some idea of where they stand in relation to others in the department.

"Pay" is probably significantly lower than in 1952. Item analysis of this category shows that the item regarding the handling of pay matters dropped the most significantly. The personnel office had recommended that increases be granted only following the job evaluations and that for equity reasons they be given on the basis of the evaluations, with further merit increases to be determined through performance ratings. For various reasons, the department head was unable to follow these recommendations.

We may summarize item analysis results in "pay," "job security" and "status and recognition" by saying that the employe better knows where he stands in relation to the department and to other employes, and he knows some of his potential opportunities, but there still remains a feeling of inequitable pay and a dislike for the handling of pay matters.

While there is no significant rise in "confidence in management" and "adequacy of communication," there is evidence within these categories to indicate some success in encouraging employe participation. This is shown by the employes' agreement on the items concerned with encouragement of employe suggestion, freedom of expression, and knowledge of company plans and developments. They also feel that management is more effective than it was last year.

"Reactions to the inventory" was significantly lower in 1953 as compared to 1952. This category is composed of two items: one regarding the inventory as a means of communication, and the other as a means of getting action in employe problems. For the most part, the employes felt that it was a good means of communication, but apparently they were disappointed regarding the action that had been taken. It is this item particularly that lowered the results in this category.

The number of written comments was fewer than in the previous year. There are two possible explanations of the decrease. One is that employes were discouraged from expressing themselves for the same reason that "reactions to the inventory" dropped, *i.e.* they had greater hopes of action in 1952. The second interpretation, however, seems the more valid—that a number of reasons for criticism have disappeared with the institution of a longer rest period, the gaining of individual recognition, and the understanding of promotional policy. Additional evidence to support the second interpretation is found in the fact that comments concerning the need for a lounge increased in 1953, a complaint about which nothing could be done during this period.

CONCLUSIONS

While the results have not been dramatic in the last year, there have been improvements in areas that were brought into focus by use of the inventory. The greatest value of the inventory has been in its use as a tool of communication between the employes and the supervisory level, and this alone is one aspect of achieving good morale.

Wittenberg College Photo

LONG-RANGE TRENDS

as annually predicted by

FRANCIS J. BROWN
Staff Associate, American Council on Education

ONE OF THE BASIC TRENDS TO WHICH I have frequently referred in these reports from Washington is the inevitable increase in college enrollment. I advisedly use the word "inevitable" as the projection is based not upon assumptions but upon facts.

In 1940 a baby was born in the United States every 12.6 seconds; in 1953, a baby was born every 8 seconds. More of these babies will live to enter college 18 years from now. Today 55 per cent of all young people graduate from high school; by the time these infants are of high school age, at least 75 per cent of them will be high school graduates. The prediction I made a year ago, namely, three million men and women in our colleges and universities by 1960 and four million by 1965, and five million by 1975, appears even more conservative than it did at that time.

The recently published report "College Age Population Trends—1940-70," published by the American Association of Collegiate Registrars and Admissions Officers, breaks down the over-all figures on a state-by-state basis and should be extremely helpful in statewide planning. The projections are based largely on data regarding births. There is a wide range by states —from California's increase of more than 230 per cent by 1970 to an actual decrease in population in Oklahoma and an estimated increase in college population of only 15 per cent.

There are, of course, unpredictable factors: a major depression or an all-out war. But a factor that becomes the immediate responsibility of every institution is the extent to which it will share in this expanding enrollment. This will require a careful appraisal on the part of each institution of its fundamental purposes and an evaluation of its real and potential assets in terms of personnel and physical equipment. In my judgment, it is not a matter of public *vs.* private institutions of higher education but rather of public *and* private institutions, nationally but especially at the state level, evolving sound and feasible policies to meet the needs of the ever increasing number of young people of college age.

These predictions have specific implications in some of the immediate issues stemming out from Washington.

Perhaps the most immediate one is the college housing loan program. I wish there were space to relate in detail the continually recurring crises, both in the Congress and through administrative action, which this program has fortunately thus far successfully weathered. There is now $63,500,000 available for loans during the fiscal year ending June 30, 1954. The interest rate is 3½ per cent and all defense restrictions have been removed. As yet only $150,000,000 of $300,000,000 has been released. The American Council on Education will continue to do all that it can to avoid crippling regulations and to retain this loan program—which is an investment and not an expenditure on the part of the federal government—as a permanent revolving fund.

A second potential development is that of a scholarship program for non-veterans. With every able-bodied male eligible for G.I. benefits, it would appear that there is a comparable federal responsibility to provide a scholarship program for the men and women who are not in the armed forces. Such a bill has been introduced. Personally, I doubt whether any action will be taken on it since it runs counter to another basic trend of this administration, economy.

Another long-range trend is that of national security. This has two facets: military, and intellectual and emotional. Many aspects of the first will have direct bearing on higher education. One is the reversal in trend of R.O.T.C., especially within the air force. After a period of early and rapid expansion current calculations indicate that if the present air R.O.T.C. were continued as originally planned, there will be many more junior officers than can be immediately commissioned for active service upon graduation. This is due in part to the cur-

From an address presented at the annual meeting of the Association of Urban Universities, October 1953.

tailment of funds and the cutback in the number of air wings; in part, to overly optimistic planning. Whatever the cause, the air force announced that only a small proportion of the students in R.O.T.C. would be commissioned.

This confused picture may be brought into consistent lines through enactment by the Congress of legislation establishing greater uniformity of policy. The bill now on the Hill would authorize the army and the air force to adopt an R.O.T.C. policy comparable to the Holloway plan of the navy.

IMMEDIATE ISSUE

An immediate issue is the recurring pressure for universal military training. Last summer the President made two requests simultaneously: one to the National Security Training Commission and the other to the Office of Defense Mobilization. He accompanied his request to the National Security Training Commission with the appointment of three new members to the commission, each of whom has consistently and vigorously been on record in support of U.M.T. He requested the commission to issue a report during December. The report of this commission will differ only in detail from the first report which the commission issued about two years ago. It will recommend universal military training for a six months' period.

Prior to induction at age 18 or before completion of high school, men will be selected, either by lot or by some less opportunistic method, some for their 24 months of military service and others for the National Security Training Corps for six months' military training after which they will be in reserve status for the 7½ years required by the Defense Act passed by the Congress in 1950.

If some method other than by lot is used, the local Selective Service board may be authorized to give priority to high school graduates who wish to continue in college. The report and the proposed legislation will include a mandatory reduction in the standing armed force of one individual for each three who have completed U.M.T.

The President's other request to O.D.M. was to make a study of manpower to determine whether or not sufficient men are available to operate U.M.T. and U.M.S. simultaneously. It is still too early to predict the findings of this study but I predict that, regardless of the findings, there will be even stronger pressure than ever before for enactment of U.M.T. in the second session of this Congress.

This proposed legislation must be reevaluated in terms of all of the new factors involved: a long continuous period of international tension; bomb warfare; the possible utilization of men trained through U.M.T. for disaster areas if the human race continues to lurch forward to its own self-destruction; other alternatives to the proposed uninterrupted six months in a military camp. Against these new elements the basic underlying values inherent in democracy must also be taken into consideration. No one can prejudge the desirability or undesirability of U.M.T. However, it must be a major area of thoughtful consideration and evaluation by administrators, faculty, students and of educational organizations in the weeks immediately ahead.

INVESTIGATIONS COSTLY

Turning to the other side of security, the emotional and intellectual, it is significant to note that the 83d Congress authorized more than a hundred investigations for which approximately $4,000,000 has been appropriated. In a forthcoming article in the magazine *Philanthropy*, James L. McCaskill, director of the division of legislation and federal relations of the National Education Association, summarizes the present status as follows:

"From the ranks of a million teachers, about 210,000 of whom are teaching in college level institutions, the Jenner subcommittee called about 100 witnesses. Of this number, 82 educators, about whom the subcommittee had some evidence of Communist party membership, refused to answer questions about their Communist affiliations, invoking their constitutional privilege against self-incrimination.

"Of these 82, 40 were faculty members or employes of 16 different universities (mainly in the vicinity of New York City); the rest were teachers in secondary schools."

In reciting these figures I do not mean to imply that our schools and colleges can blandly ignore the presence of the danger of infiltration. I do believe the danger has been exaggerated out of all proportions to the underlying facts. I believe also that we have passed the peak of such congressional investigations. This attitude is borne out by the fact that three of the members of Congress appointed to the Reece committee to investigate foundations and similar organizations were those who voted *against* the resolution. The chief legal counsel appointed to the staff of the commission is a New York lawyer, who was formerly on the law school faculty of New York University.

FIFTEEN DELAY SIGNING

The problem arising from the contract of educational institutions with the United States Armed Forces Institute is another facet of the same trend. The U.S.A.F.I. contract last fall included the phrase that no individual will be employed under this contract who is found to be "unsatisfactory to government." In the judgment of many this still is not an adequate safeguard and the committee on relationships has urged that the contract make specific reference to the provision in the Act relative to security. Fifteen institutions delayed signing the contract pending further negotiations.

One final major trend brings with it immediate issues. This is the trend toward economy. I have already indicated its reflection in the difficulties of maintaining the college housing loan program. It manifested itself in the minor reduction from $1.50 to $1 per month in the reimbursement of administrative costs for veterans. It showed itself in a more substantial manner in the serious curtailment of the budget of the U.S. Office of Education. Through vigorous and concerted effort, a considerable portion of this cut was restored, but the specific allocation of funds still jeopardizes a number of the long established services of the Office of Education.

Perhaps most significant was the proposed reduction in the grants-in-aid to land-grant colleges. Again this was restored, but it may be for the current fiscal year only. The Congress authorized the appointment of a committee to study federal-state relationships. Although there is as yet no clear indication of what the committee finally will report, some measure of its thinking is now public knowledge. The Council of State Governments has published its recommendation to the committee specifically stating that grants-in-aid for vocational education established by the Smith-Hughes Act of 1913, and expanded through later legislation, should be discontinued after 1955. It is anticipated that a similar recommendation will be made regarding other educa-

tional grants-in-aid, including the school lunch program and the grants to land-grant colleges and universities. The date 1955 has been proposed in order to give the states time to take over full financial obligation for these programs.

It will be extremely interesting to see whether or not the elimination of grants-in-aid will move beyond the area of education to that of road construction, maternal and child care, unemployment compensation, public health, agricultural extension service, and the many other ways through which the federal government has accepted its constitutional responsibility for the public welfare.

The proposed increase in postal rates is another indication of this attitude of economy. The Council has made representation in support of the basic principle that the post office is a public service to all the people and as such should *not* be operated as a business enterprise in which income must at least equal expenditures.

Even the exchange-of-persons program in which the President expressed such a deep interest in his statement at the annual meeting of the American Council on Education has been subjected to the same economy policy. The appropriation for the federal programs involving foreign currencies carried a rider requiring that all such funds be annually appropriated by the Congress. The Fulbright exchange-of-persons program operates largely through foreign currencies and hence was included in this Rabaut amendment. Yet Fulbright scholars are appointed a year in advance of the need for the funds. If there is no firm assurance that the appropriation will be made and money available, it will be impossible to honor the commitments made to both American and foreign students and scholars.

There will be extensive revision both of the tax structure and social security within the next session of the Congress. On the matter of taxes, the Council's committee on taxation and fiscal reporting has testified before the House ways and means committee recommending that the present $600 limitation on the earnings of a dependent be substantially increased. In regard to social security, two recommendations have been made: one that the benefits of social security be extended to employes of publicly controlled educational institutions, and the other that the amount that an individual may earn and still receive his retirement allowance be significantly increased.

There is one other aspect of legislation that has been of real concern to the Council and to all our members. I refer to the proposed change in P.L. 550 whereby payment would be made both to the veteran and to the institution in which the veteran is enrolled rather than as now exclusively to the veteran. The U.S. Office of Education has been for a number of weeks preparing a questionnaire to get specific data on fall enrollment of nonveterans and veterans under P.L. 550.

Even if data demonstrate that the present operation of P.L. 550 encourages a larger proportion of veterans than of nonveterans to enroll in low tuition institutions, there are still basic questions that need to be resolved. The first is: What factors other than tuition affect the enrollment of P.L. 550 veterans? This also relates to the total number going to college. Many of the

current veterans are of the older age group since inductions began with 26 year olds and worked gradually downward. Others are younger men who either did not plan to go to college or were unable to qualify for deferment on either the test score or class standing. There is probably a correlation between standards of admission and tuition charges that would make it possible for a larger proportion of men in the second category to be admitted to low tuition institutions than to those of high tuition.

Another question is whether institutions desire to risk the amount of payments to the institution to annual congressional appropriations. The bill currently proposed would reduce the payment to the veteran by $30 a month and pay this $30 to the institution, regardless of its tuition fees. If a tuition fee is charged, the payment would be credited to tuition up to the full amount of $30 a month.

It is unlikely that the Congress would reduce the amount of payment directly to the veteran. It might more readily reduce a payment that was made to the institution. This is evidenced by the reduction from $1.50 to $1 for reimbursement for administrative costs.

A third question to be considered is whether it is good public relations, especially for institutions that charge nonveterans less than $30 a month, to charge veterans in effect the full $30 since the payment to the institution is deducted from the payment he is now receiving under the current act.

Other questions are: Will the new bill in effect be federal aid to nonpublic institutions? Would the proposed amendment entail much heavier administrative costs and more direct control by the Veterans Administration of what are justifiably required fees?

I can add only one brief word regarding student deferment. The number of monthly inductions through Selective Service is determined by the number of replacements required for those who complete their tour of active duty and do not reenlist. The heaviest inductions were in 1950, thus making the even years those during which the larger number have completed their service and must be replaced. General Hershey has indicated that it will thus be necessary to step up inductions from the present 23,000 a month to, perhaps, "40,000 to 60,000 a month in the second half of calendar 1954." Whether or not this will involve a tightening of student deferment will depend upon the availability of manpower and the continued minimum strength of the armed forces.

One can say with a high degree of certainty that no changes are contemplated in the basic principle and practice of student deferment. The Council's committee on relationships has urged a spring examination for high school seniors in order that they may qualify for deferment and not be subject to induction during the summer of 1954.

If I may summarize in one short statement, I would urge that institutions and organizations appraise the immediate issues in terms of long-range trends. Some that seem now of paramount importance may become less significant—or more—when viewed in perspective. There is need for an intensification of cooperative planning, and no issue can wisely be permitted to become a divisive factor within higher education. I am sure that this will not occur and that higher education will intensify its service and its cooperative endeavor to meet expanding needs.

NINE WAYS

in which our system of BUDGETARY CONTROL *paid off*

EUGENE E. COHEN
Budget Officer, University of Miami, Coral Gables, Fla.

1. **Each department head has become an auditor**
2. **Current reports have made personnel cost conscious**
3. **Records are easily audited**
4. **Simplified filing system has cut down storage space, made material accessible**
5. **Accounts payable clerk is furnished controls**
6. **Statistics and accounting summaries are rapidly developed**
7. **Internal audit control has been created at virtually no extra cost**
8. **More work is produced with little additional cash**
9. **Reports are neat, legible and businesslike in appearance**

THE COMPLEX ORGANIZATION AND the growing volume of financial transactions in our universities have made impossible the day-to-day method of doing business. The concept of budgetary control is developed around the necessity to limit fiscal activities to a preplanned program of operation.

As budgets are originally based on estimates, it is through control that the responsible business manager collates these forecasts with actual financial transactions. Control demands accuracy of posting, coding and reporting along with a systematic routine that will produce current reports that are understandable and usable at the department level.

At the University of Miami, which has a student enrollment of more than 10,000, a system of budgetary control is in operation that produces accurate and intelligible reports for 236 departments—with all reports ready for department heads no later than the third working day following the month reported. A complete machine installation is in use for all posting details. Reports deal with budget expenditures only.

A separate budget account is maintained for each teaching department, administrative office, research project, intercollegiate sport, housing unit, campus area, and maintenance department. Each budget is broken down into three basic categories where applicable: *A*, salaries; *B*, supplies and expense; *C*, capital outlay.

Salaries are further divided into six subclassifications; supplies and expense into 39 subclassifications, and capital outlay into nine subclassifications. Control is maintained only on the *A*, *B* and *C* category totals but details of activities in all 54 expenditure subclassifications are supplied monthly to all department heads. Appropriations for *C* acquisitions are based on specific itemized requests, and executive approval is necessary before the budget officer will approve a capital purchase not included in the department budget request, regardless of the free balance in the *C* category.

All transactions incurred through the last day of the month are recorded and included in that month's departmental budget reports. Exception is made for internal departments performing services for other departments. For these departments a cut-off is made four days before the end of the month, except at the end of the fiscal year, in order to give the department time

to summarize charges and work orders. These reports are forwarded to the budget office for the preparation of journal entries.

FORMS AND DOCUMENTS

Requisitions: A standard requisition form is used by department heads to request any type of expenditure or service, either of a university department or of an outside vendor. Itemized down the left margin are the expenditure numbers, enabling department heads to check the proper subclassification. All requisitions provide space to show the account number of the department which is to be charged for the transaction and the authorized signature of the department head responsible for the department budget.

Requests for checks to be drawn for such items as travel expense, reimbursement of petty cash funds, and similar transactions are sent directly to the budget officer. Requisitions for the purchase of materials and supplies from vendors or individuals are routed directly to the purchasing agent where pricing data are obtained.

Purchase Orders: Requisitions requesting goods or services from outside vendors or persons are approved by the budget officer after price and cost information are supplied on requisition by the purchasing agent. After budget approval, which includes verification of the free balance of the account, checking cost data, and confirmation of account number and signature, the requisition is returned to the purchasing agent for a purchase order.

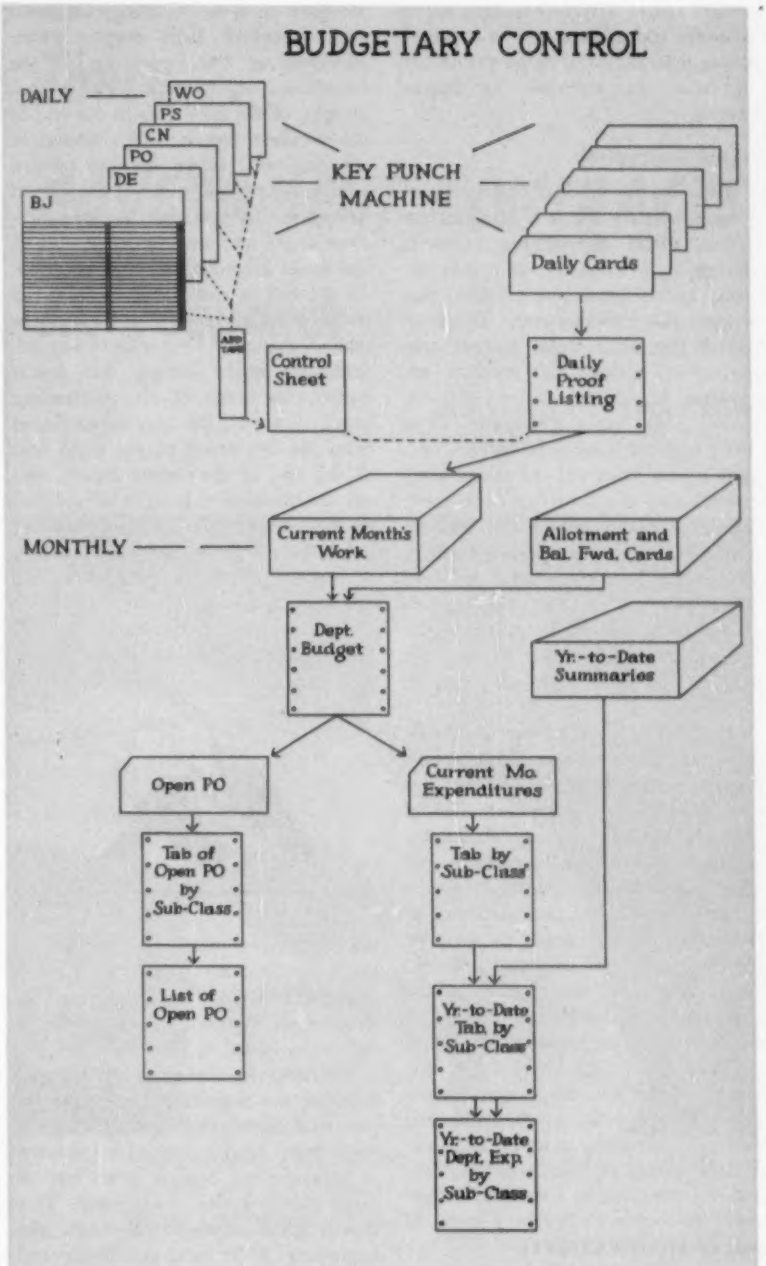
The original purchase order is sent directly to the vendor, one copy is sent to the budget office, a third copy to the accounts payable clerk, and two additional copies are forwarded to the requisitioning department. One of the two copies forwarded to the requisitioning department is for its permanent file while the second copy is used as a receiving ticket. When the goods and/or services have been received or completed the department head certifies to the acceptability of the order, dates the copy of the purchase order, and returns it to the business office.

Change Notices: A change notice form is used for adjusting upward or downward the original amount of an open purchase order, which is based on increased cost, decreased cost, cancellation of certain items, or the addition of items to the order. Increases and decreases are approved by the budget officer after he first checks with the department head in cases in which serious increases in price are noted. Change notices are prepared in the accounts payable department.

Partial Shipment Notices: Partial shipment notices are prepared when parts of outstanding purchase orders are received with balances to be delivered at future dates. These notices are prepared by the accounts payable clerk. Partial shipment notices reduce the number of open orders and increase expenditures.

Direct Expenditure Vouchers: Requests for direct expenditures, after approval by the budget officer, are used as the basis for the preparation of checks. The budget office serially numbers, codes and classifies all vouchers and forwards them to the chief accountant for audit before checks are written. Expenditures not exceeding $10 are handled directly with the petty cashier without prior budget office approval.

Journal Entries: Work orders, postage, duplicating, visual aid, garage and other internal services are charged back to the requisitioning departments by journal entries prepared in the



budget office. Original budget appropriations and adjustments in appropriations, after approval by proper authority, also are recorded by journal entries.

DAILY PROCEDURE

Each day the budget office prepares a report that includes all purchase orders, direct expenditure vouchers, change notices, partial shipment notices, and journal entries that were written the previous day. These are sorted into their basic budget categories—*A*, salaries; *B*, supplies and expense; *C*, capital outlay—and detailed proof tapes prepared. These proof tape totals are then entered on a daily report form and the entire batch representing the previous day's transactions is forwarded to the business machine room for card punching. This room prepares a card for each transaction. All postings are proved to the daily control prepared in the budget office. Detailed listings are prepared that give an exact ledger of the daily work.

A list in numerical order of all new purchase orders written is given to the accounts payable department, as a control, along with a duplicate deck of business machine cards. When the accounts payable clerk receives the copy of the purchase order from the requisitioning department certifying to the receipt of the goods or services, the clerk will pull the open purchase order card and forward it with the daily batch to the budget officer. A proof tape is prepared as a control and included in the daily report forwarded to the business machine room. The purchase order is then changed from an open status to an expenditure. A daily listing of liquidated purchase orders is prepared as a detailed ledger.

END OF MONTH REPORTS

After completing the detailed daily card punching for the last day of the month, the cards are then sorted and prepared for the end-of-the-month reports. The departmental budget report is prepared in triplicate each month with the original retained in the budget office, a copy for the department head concerned, and another copy for distribution to deans or for billing purposes.

This departmental budget report shows appropriations, open orders, expenditures and free or unexpended balances as of the end of the report month. This report is divided into the basic *A*, *B* and *C* categories previously described. Each category shows allotment at the beginning of the month and expenditures from the beginning of the fiscal year to the end of the previous month. All transactions affecting the budget for the current month are posted in detail by journal entry, direct expenditure voucher, purchase order, and work order in numerical order according to type of entry. At the end of each category, after all transactions are posted, the allotment total is printed. This reflects any adjustments made during the report period; the total of all outstanding purchase orders; the total expenditures from the beginning of the fiscal year to the end of the report month, and the unencumbered balance at the end of the period. Strict control is maintained over each category and transfers of appropriations are made only after executive approval.

One feature of the report is that orders open at the end of the month

are not summarized and carried to the next monthly report as a total brought forward, but are printed in detail each month until the order is either liquidated or canceled.

Expenses by Subaccount: Supplementing the departmental budget report each month is a report giving the department head a detailed breakdown of expenditures, broken down into as many subcategories as necessary. This report gives expenditures from the beginning of the fiscal year to the end of the current month and has proved a valuable tool for checking budget requests against current expenditures.

Other Reports: Internal reports prepared for administrative information include a tabulation giving cumulative expenditure totals for all departments from the beginning of the fiscal year to the end of the report period by subclassification. A similar report is prepared giving expenditure data for all departments for the report month only.

A report is prepared giving gross appropriations, open orders, expenditures and free balance for each department. (Totals of *A*, *B* and *C*.) This report is used to verify totals previously developed and is a trial balance of each account.

A complete listing of all open purchase orders is prepared by categories *B* and *C* and is used as a check list by the accounts payable clerk to verify his open purchase order file. This list also is used to verify change notice and partial shipment postings. The total of this report should balance with the total of the open orders posted in detail in the various departmental budget reports.

CONCLUSIONS

Applications are not limited to accounting work. All types of university records are prepared with the same equipment. The machine record section does all the record posting and report card preparation for the registrar. Daily library loan records are controlled through the use of punched cards. Special statistical reports are prepared on entrance examinations and other activities as requested. Cooperation and planning have made it possible to coordinate machine scheduling with noticeable gains in reporting time and savings in labor costs. A program of further utilization of the electric accounting machine installation has been approved and procedures will be developed as quickly as careful planning permits.

In concluding this brief summary of the system of budgetary control at the University of Miami, it might be well to cite some of the outstanding results:

1. Each department head has become an auditor.
2. Current reports have made university personnel more cost conscious.
3. Records are easily audited.
4. A simplified system of filing has cut down on storage space and has made all background material readily available for answering inquiries concerning postings.
5. The accounts payable clerk is furnished controls.
6. Statistics and accounting summaries by any group of departments, including any or all 54 expenditure subclassifications, are rapidly developed for various reports requested.
7. An internal audit control has been created with virtually no additional cost.
8. More work is produced with little additional cost.
9. Reports are neat, legible and businesslike in appearance.

Those GOVERNMENT CONTRACTS for research

RAYMOND J. WOODROW
Executive Officer and Secretary, Princeton University

Approximately $300,000,000 was made available in grants and research and development to colleges and universities by the federal government during the fiscal year ending June 30, 1952.

ACCORDING TO FIGURES COMPILED BY the National Science Foundation, the various agencies of the federal government made available in grants and contracts for research and development approximately $300,000,000 to colleges and universities during the fiscal year ending June 30, 1952.

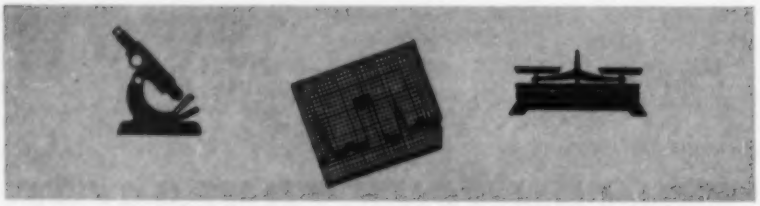
Although this figure included a substantial amount for a few major research centers operated by certain universities, it nevertheless is indicative of the importance of federal government sponsorship in college and university business. The requirements and provisions contained in these contracts and grants can therefore have a major effect upon operating procedures and practices. A substantial impairment of the ability of an educational institution to maintain its integrity and to sustain an environment conducive to sound education and creative research can result from restrictive contract requirements or from provisions that do not take into consideration the peculiar nature of educational institution operations.

During World War II days, the large volume of research and development performed by colleges and universities was handled primarily under contracts with the National Defense Research Committee and its successor parent, the Office of Scientific Research and Development. These agencies, which were staffed largely by personnel drawn from universities whose contracts were largely with educational institutions, utilized relatively simple contract forms that created relatively few problems. Shortcutting of many typical government procedures was justified by the exigencies of all-out war. Simplified contracts also resulted to a substantial extent, however, because of the fact that the O.S.R.D.-N.D.R.C. was a new agency, without an accumulation of built-in procedures and policies.

Since the war, most of the contracts with educational institutions have been concentrated in the departments of the army, navy and air force of the Department of Defense; in fiscal 1952 these accounted for some 53 per cent of the federal funds made available. The Atomic Energy Commission, following its establishment in 1946, has rapidly built up to a point where 35 per cent of the 1952 federal funds for university research came from the A.E.C. budget. No other federal agency accounted for more than 5 per cent of the total. The pattern of contractual relationships has developed rather independently with these various agencies, although there are many interrelationships both on a formal and an informal basis.

DEPARTMENT OF DEFENSE

Taking over when the O.S.R.D. dropped out of the picture in the early postwar years, various bureaus in the navy and technical services in the army contracted with universities for research and development, having been convinced by the O.S.R.D. history that substantial contributions could be made to their technical missions in this way. Many of these patterned contracts to an appreciable extent after the O.S.R.D. form of contract, but in various ways, and to various degrees, more and more of the standard production-procurement practices were introduced. A general tightening up of controls and procedures almost inevitably resulted from reduced pressure to get the research and development work accomplished, and increased pressure to avoid criticisms of what might be called "loose" practices. The office of naval research,



established by the department of the navy with a primary mission of sponsoring research in universities, was more successful by far than other agencies in developing contracts particularly adapted to dealing with educational institutions.

The establishment of the Department of Defense, and a department of the air force in parallel with the old line departments of the army and navy, together with the passage of legislation covering all procurement and contracting practices of the armed services, has gradually worked many changes. The munitions board,* in fulfillment of its responsibilities for procurement policies and procedures within the Department of Defense, has taken an increasingly strong hand in the preparation of regulations covering virtually all aspects of procurement and detailed contract provisions for the armed services. Recently, under Reorganization Plan 6 of 1953, the munitions board was abolished and its functions in this connection have been taken over by the Assistant Secretary of Defense for Supply and Logistics. The armed services procurement regulation committee, which reports to the Assistant Secretary, is responsible for preparation of the armed services procurement regulation (A.S.P.R.) which in its 15 sections has become the bible of every contracting officer. (This regulation, of which the 24th revision had been published at the time of this writing, is on sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C.) From A.S.P.R. come the majority of the provisions that are included in the various contracts prepared by the many agencies within the Department of Defense. Special deviations (changes from prescribed A.S.P.R contract provisions) are very difficult and require a long time to obtain.

In view of this increasingly prescribed uniformity and centralization of many of the functions that used to be retained by individual agencies, it has become increasingly important to negotiate many contract provisions at the level of the Department of Defense and the A.S.P.R. committee. This generally is much more effective if it can be done by an association representing many institutions, rather than by individual institutions, although in important questions the refusal of certain institutions to accept contracts containing objectionable provisions has proved to be the only convincing argument.

Negotiation by associations rather than by individual institutions is not new. The first important postwar negotiation of this type resulted in the issuance of the "Explanation of Principles for Determination of Costs Under Government Research and Development Contracts With Educational Institutions," War Department, Navy Department, August 1947. (The same principles, in somewhat different language, are now contained in Part 3 of Section XV of the Armed Services Procurement Regulation.)

Three committees representing the educational institutions are now active and cooperate closely in these negotiations, namely, the National Federation of Business Officers of the National Federation of Associations of College and University Business Officers; the joint committee of business officers of the Association of Land-Grant Colleges and Universities and National Association of State Universities, and the committee on contract relations with the federal government of the engineering college research council of the American Society for Engineering Education. During 1952, an ad hoc committee of the research and development board of the Department of Defense, containing representatives of the military departments as well as of universities, conducted a study and submitted its final report on some of the more important contractual problems involved in relationships with educational institutions.

Some major improvements in contract relations with the Department of Defense have already resulted from these negotiations. Others on which recommendations have been made are still under consideration. Frequently the results of these efforts are not readily apparent, since the Department of Defense has shown considerable cooperation in asking for comments on proposed new contractual requirements before these are finally issued.

From the foregoing, it might be inferred that the answer to the whole problem of contracting with the agencies of the Department of Defense lies in obtaining satisfactory provisions in the armed services procurement regulation for educational institution contracts. Such, unfortunately, is not the case. Each of the departments of the army, navy and air force has its own peculiar regulations, and each of the technical services, bureaus and agencies within those departments has additional procedures and instructions that are superimposed upon the A.S.P.R. requirements. Oftentimes these are more objectionable or difficult than the A.S.P.R. requirements. A.S.P.R. itself has alternative provisions for certain situations, and in some areas no appropriate section of A.S.P.R. has as yet been issued, with the result that provisions that were prepared to cover supply contracts, for example, are used for research contracts where they fit rather badly. It is therefore not unusual to find that contracts for comparable services from different agencies still contain many provisions that have nothing in common.

Appreciable relief from the foregoing complexities may be expected when all sections of A.S.P.R. are finally issued. Negotiations with the separate departments and agencies still are necessary and are going forward, however, for those procedures and instructions that are peculiar to each. Revisions of A.S.P.R. also require continuous attention. Ideal contracts for research in educational institutions still are a far cry from realization, and will probably never be achieved.

ATOMIC ENERGY COMMISSION

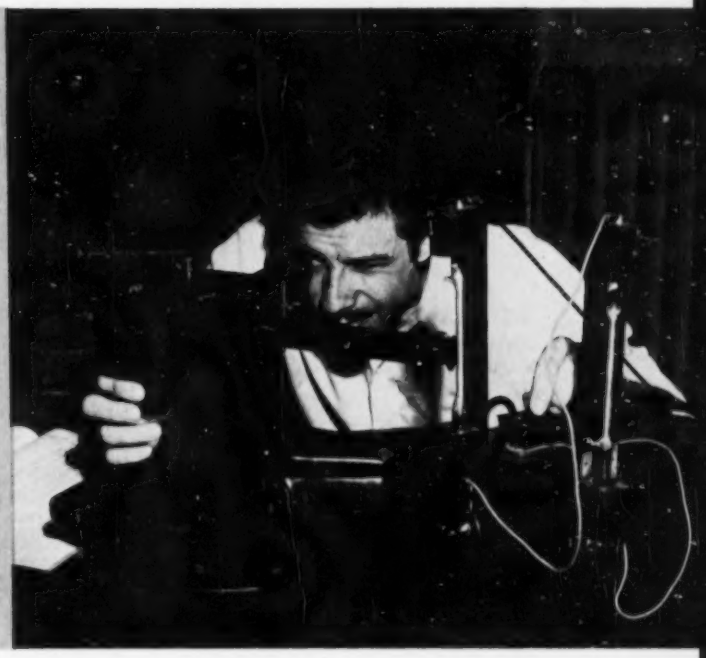
The Atomic Energy Commission, having taken over certain large going projects at relatively few universities previously under the Manhattan District Corps of Engineers, is quite new in the business of contracting with any large number of colleges and universities. Its impact is now substantial, however, as measured by the dol-

*These remarks with regard to relations with the Department of Defense were written before the issuance of the President's reorganization plan providing for the abolishment of the munitions board. It is still too early to predict what effect the results of this action will have on contracts with the Department of Defense.

lars it allocates to such contracts. Its contracting practices, from the point of view of educational institutions undertaking work contracted for by the commission, have been in many cases less desirable than those of the Defense Department. Strong recommendations on a number of problems recently have been submitted to the A.E.C. by the committees referred to earlier, and there is some evidence that changes for the better may be in store.

Among the more serious problems in A.E.C. contracts has been the 8 per cent rule applied to so-called "nonprogrammatic" research; if a particular project were deemed to be "nonprogrammatic," then the institution has been expected to contribute that part of the costs of the work that includes the academic year salary of the faculty member involved, together with an amount equal to the reduction of indirect expenses from the institution's audited rate to 8 per cent of the total direct costs of the project. The commission has just recently announced the abandonment of the 8 per cent limit on indirect expenses, but still seems to be emphasizing that universities should share in the cost of projects sponsored by A.E.C. As stated in one recommendation on this subject: "It seems strange indeed that educational institutions should have been singled out as the one segment of the national economy that must absorb part of the costs of work done for the federal government."

Other problems of concern in A.E.C. contracts that are receiving attention include unilateral or inequitable provisions on such matters as security, patents, the ownership of notebooks and memorandums, salary controls, insurance and liability, safety and contract renewals. It is understood that the A.E.C. is considering recommendations on these problems, and it is hoped that more favorable conditions will prevail in the not too distant future. The severity of the problems in individual contracts presently varies from case to case, since no unified code has been issued by A.E.C. comparable to the armed services procurement regulation, and since each area operations office responsible for the placement of A.E.C. contracts has substantial autonomy with regard to contract provisions and procedures.



Requirements and provisions in government contracts and grants can have a major effect upon a university's operating procedures and its practices.

OTHER FEDERAL AGENCIES

Among the other federal agencies sponsoring research in colleges and universities, the Federal Security Agency, the Department of Agriculture, and the National Science Foundation are probably the most significant from a dollar volume standpoint. Many of these other agencies sponsor research on a so-called grant-in-aid basis rather than through formal contracts. Problems similar to the 8 per cent rule in A.E.C. "nonprogrammatic" research are widely encountered in these other agencies, although more favorable terms have been adopted in some instances and there is some evidence of additional improvements as a result of recommendations by many groups.

The fact that much of this sponsorship is on a grant-in-aid basis should not blind college and university administrations to the fact that terms and conditions are included that are as binding as in any formal contract. Requirements as to the reporting and disposition of inventions and patents are commonest, and an institution that does not install the procedures necessary to comply with these requirements could, for example, be subject to liability for royalties which the government might be obligated to pay for the use of a patent under which the institution had agreed to give the government a royalty-free license.

As a result of the grant-in-aid method of sponsorship, fewer deviations from the standard terms and conditions adopted by a particular agency are possible, and improvements in terms and conditions are therefore even more dependent upon consolidated action by associations of colleges and universities than in the case of contracts.

SOME GENERAL COMMENTS

Despite the large volume of federal funds being used for contracts and grants to colleges and universities, it is remarkable to note how few of the institutions involved are fully aware of the obligations they have assumed by the terms and conditions of contract or grant instruments. Although the likelihood of such action in the case of an educational institution is small, contracts can be defaulted for failure to comply with any of the contract provisions, and default can mean, among other things, a liability to reimburse the government for any excess costs that the government might incur in obtaining the same work performed by another source.

Special protective measures have been inserted or have been recommended in a number of instances to recognize the peculiar nature of college and university operations, and the fact that these institutions operate on a nonprofit basis. In the final analysis, however, each institution has the responsibility to itself of managing its operations and commitments in such manner that its future will not be jeopardized. Failure to assume this responsibility can mean a sacrifice of authority over its own affairs.

CHARTING Administrative Control

Managerial reporting by means of charts helps to get maximum report for every dollar spent

NORMAN N. BARISH
Associate Professor of Management Engineering
and Secretary of the College of Engineering, New York University

THE SUCCESSFUL OPERATION OF A large industrial enterprise depends on intelligent policy and wise decisions made by the company's chief executives and their assistants. These decisions must be based on facts. In the absence of facts, the decisions may be poor and harmful to the enterprise.

In any enterprise, although the facts are present, they are not always in the hands of those responsible for making decisions. And if they are in their hands, they are not always in usable form.

The same situation applies to college administration.

In order to place in the hands of the responsible executive, the dean of the college of engineering at New York University, the statistical facts required for intelligent planning and administration, a control charting program was adopted.

SOUND PROGRAM

A sound managerial charting program will consider the following points:

1. What facts are required to control operations and decide on policy?
2. How are these facts best measured, determined, gathered and presented to the administrators of the enterprise?
3. How is administrative attention concentrated on the significant facts requiring attention?

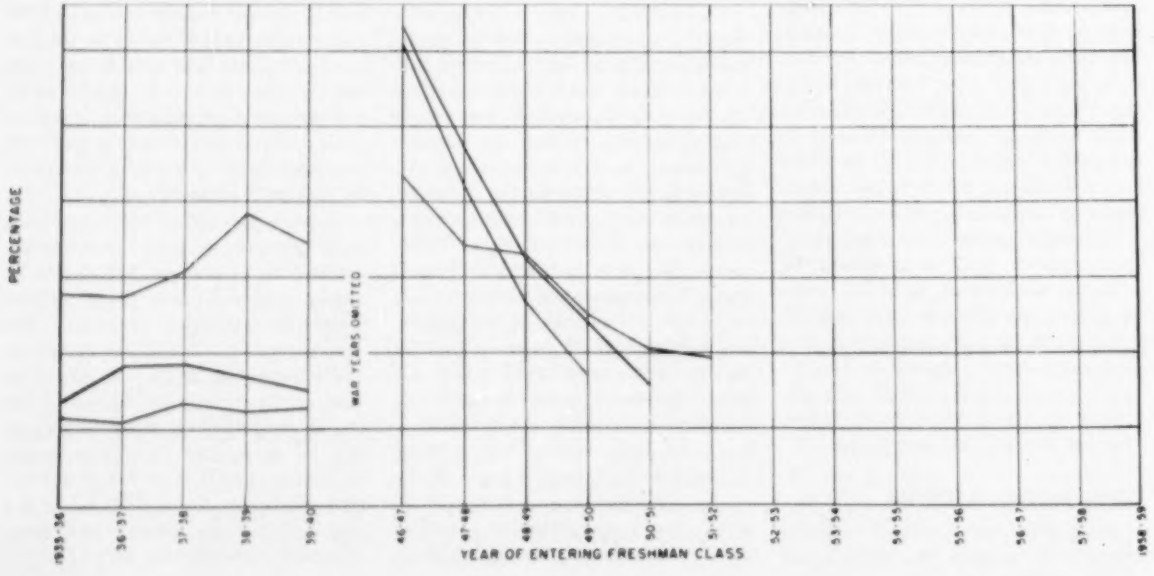
The chart series that we developed is an attempt to answer these questions in the best possible manner with respect to college operations and the dean's responsibilities for them.

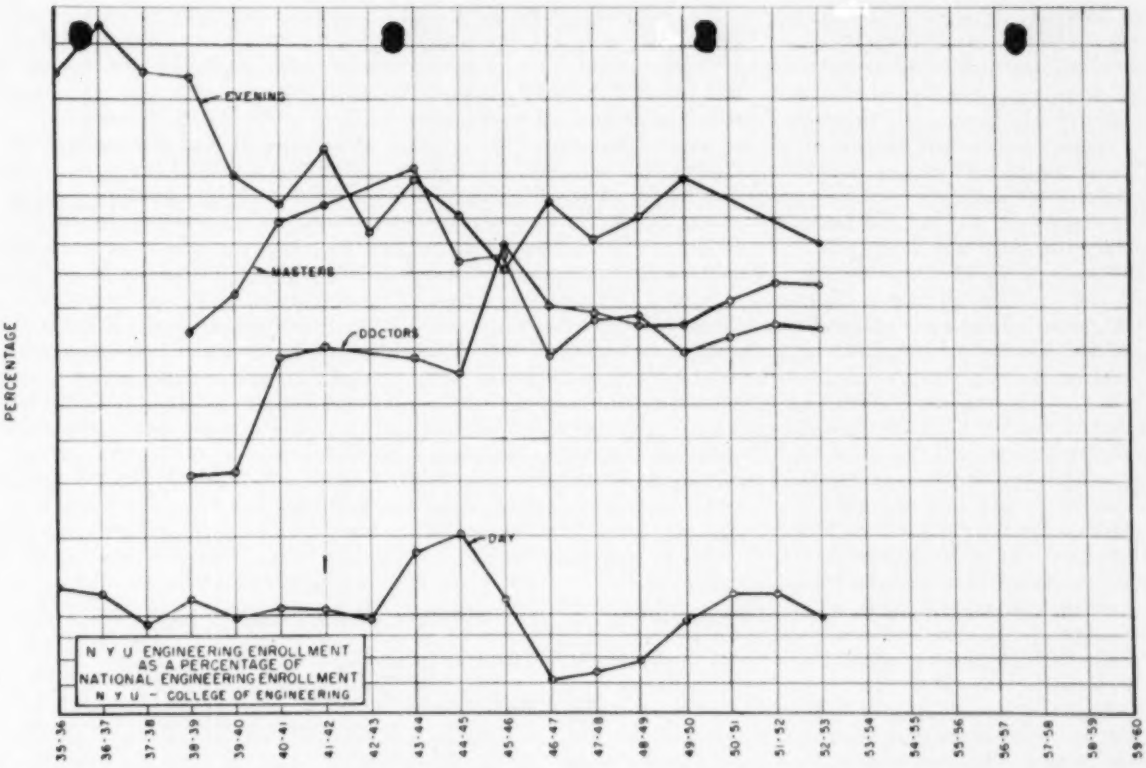
These chart series are divided into the following four groupings, each dealing with the important factors in their separate areas:

1. Academic enrollment chart series
2. Instructional staff series
3. Financial chart series
4. Research operations chart series

There is an old saying that you can't figure out where you are going until you know where you are. Taking this one step farther, you will also have a better perspective of where you are and, therefore, where you are going if you know where you have been. These four series are designed to show us where we have been, where we are, and where we are going with respect to enrollment trends, administrative and financial operations, faculty personnel, and research operations. They

Sample of academic enrollment chart series. This line chart shows student attrition in the day division.





Another academic enrollment chart showing how day graduate students at N.Y.U. compare with national enrollment.

thus provide valuable historical perspective. The general purposes of these series are to:

1. Provide current graphic reports on college operations to enable better administrative control.

2. Provide facts in readily digestible form for more logical budgetary decisions.

3. Provide a mechanism for improving the value and accuracy of our planning and forecasting procedures.

The simpler the chart, the more effectively it will portray trends and relationships. Attempts were, therefore, made to keep the charts as simple as possible. Simple line and bar charts were used, except in those cases where the data or the relationships required more elaborate approaches. Each chart was designed to serve a single purpose or to show a single set of relationships. Because multiple lines or bars were required in many cases, colors were used to make the distinctions more readily apparent at a glance.

ACADEMIC ENROLLMENT SERIES

The purposes of these charts are to show the over-all long-term enrollment trends in the various academic divisions of the college in order to provide a basis for forecasting enrollments in these divisions; to provide a basis for comparison of changes in enrollments in the various degree curriculums; to provide information on changes in student attrition rates, and to provide a picture of other facets of student enrollment such as geographical distribution of the student body. These enrollment charts are:

Long-Term Trends (6 Charts). These charts reveal the over-all long-term growth trends of the college: enrollments since 1869 shown separately for day, evening, and graduate divisions on actual as well as equivalent enrollment bases and on arithmetic and semi-log paper.

Day Division Trends (7 Charts). These charts reveal in detail, for forecasting and planning purposes, the day division enrollment and attrition trends for each grade of each degree department.

Bar charts of enrollment by classes for the entire division and for the eight degree departments; line charts of student attrition (average enrollment in sophomore, junior, senior years as per cent of entering freshman class) for entire division and eight degree departments.

Evening Division Trends (9 Charts). These charts reveal in detail, for forecasting and planning purposes, the evening division enrollment and attrition trends for each grade of each degree department.

Bar charts of enrollment by classes for the entire division and six degree departments, both on six year and equivalent four year bases; line charts of student attrition for entire division and six degree departments.

Graduate Division Trends (3 Charts). These charts reveal in detail, for forecasting and planning purposes, the graduate division enrollment trends for both masters and doctors of each degree department.

Bar charts of enrollment for master's and doctor's degrees for the entire division and for the nine degree departments.

Departmental Comparative Trends (2 Charts). These charts reveal changes in the relative popularity of the different degree curriculums in the various divisions of the college of engineering.

Line enrollment charts in nine degree departments—for day undergraduate, evening undergraduate, master's and doctor's degrees as a per cent of

total college of engineering enrolment for each of these respective degrees.

Comparisons With National Trends (5 Charts). These charts show how college of engineering enrollment changes compare with national enrollment changes, both on an over-all basis and for each curriculum and degree. Changes in curriculum emphasis are contrasted with the changes in the national pattern.

Line enrollment charts for day undergraduate, evening undergraduate, master's and doctor's degrees as a per cent of total national enrollment for each of these respective degrees—for the entire college and each of the eight degree departments; college of engineering freshman enrollment as a per cent of national freshmen.

Geographical Distribution Trends (2 Charts). These charts reveal changes in the numbers of students coming from the various geographic regions from which the three divisions of the college of engineering attract their students.

Bar chart for all divisions and for day, evening and graduate divisions—enrollments categorized as New York City, suburbs, rest of United States, and foreign.

INSTRUCTIONAL STAFF SERIES

The purposes of these chart studies are to show the over-all trends with respect to the size, rank, age, service, salary scales, and professional character of the college of engineering faculty. Such data can be useful as a general background for broad faculty personnel policy decisions. The nature of these charts are summarized below:

Size of Staff (3 Charts). These charts reveal changes in the size and character of the instructional staffs in the various departments of the college over the last 15 years.

Bar charts of number of instructional personnel in the college of engineering for last 15 years, categorized as follows: full-time grades (professor, associate professor, assistant professor, and instructor), graduate assistants, staff from other schools, and part-time staff; a similar categorization of number of instructional personnel for each of 10 college departments.

Full-Time Faculty Salaries (4 Charts). These charts picture the changes in the compensation of the various grades of the faculty and relate these changes to living cost and dollar value changes over the years.

Bar chart of average base salaries and various categories of supplementary payments of full-time faculty at the instructor, assistant professor, associate professor, and professor levels as well as line chart of maximum, average, and minimum of base salaries for last 15 years; line charts comparing changes in these average base salaries and total earnings with changes in the cost of living and dollar value.

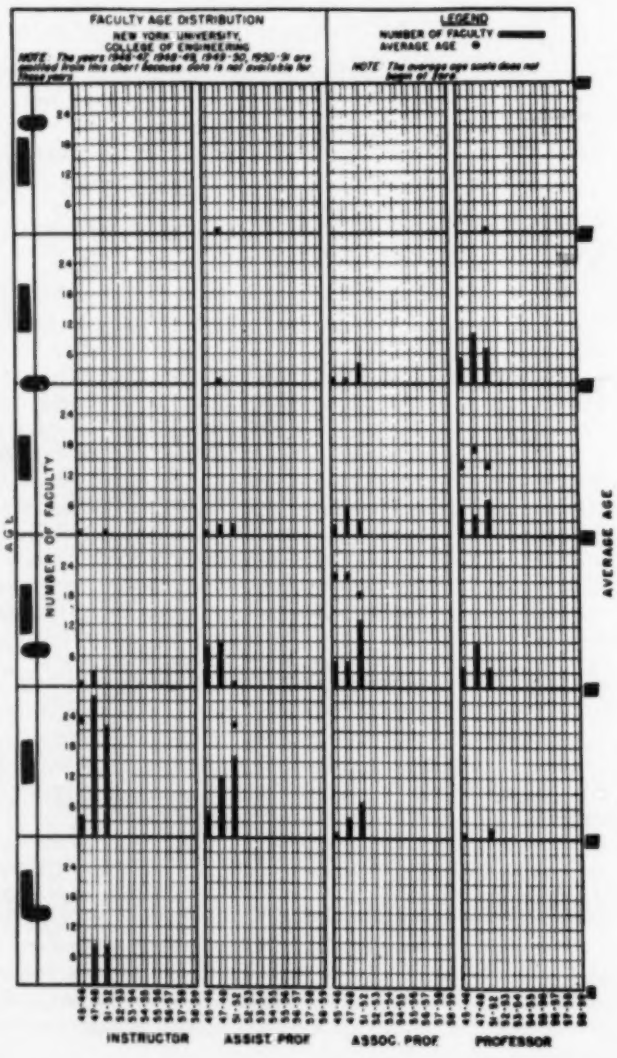
Faculty Assignment Trends (3 Charts). These charts picture the changes in work load of the faculty as well as its participation in sponsored research work.

Line and dot charts of average equivalent lecture hour assignments of full-time staff categorized by department chairman, professor, associate professor, assistant professor, and instructor, and by 10 college departments; bar chart of number and dollar value of faculty participation in sponsored research projects categorized by 10 college departments.

Promotion and Inbreeding Trends (4 Charts). These charts reveal the application of promotional *vs.* new-blood faculty personnel policies. They also show the amount of inbreeding through the appointment of graduates of our own institution to the faculty.

Bar chart showing number of faculty reaching grades of department chairman, professor, associate professor, and assistant professor, categorized by grade of original appointment; bar charts showing the number of bachelor's, master's, and doctor's degrees held by the professorial faculty categorized as to New York University

Chart showing age trends of faculty members, one of a series of four charts.



and non-New York University and by 10 college departments, with superimposed scale showing percentage of faculty having one or more degrees from New York University.

Age and Years of Service Trends (4 Charts). These charts reveal whether or not the ages of our faculty are well distributed, *e.g.* Do we have too large a proportion in any age bracket? Will a large proportion of the staff retire within a relatively few years? They also give us a picture of the stability of our faculty staff, *e.g.* Are we keeping large enough groups of senior staff members to maintain good educational continuity?

Bar and dot charts showing frequency distributions of the ages of full-time faculty as well as average ages, categorized by grade; bar and dot charts showing frequency distributions of the years of service of full-time faculty, as well as average years of service categorized by grade.

Professional Degrees and Publications (4 Charts). These charts provide a statistical picture of the changing academic degree and publication attainments of the faculty.

Bar charts of highest degree held by professorial faculty, categorized by college departments; bar charts of number of professional publications by faculty, categorized by college departments.

FINANCIAL CHART SERIES

The financial chart series of the college of engineering are designed primarily to provide facts in readily understandable form for logical budgetary decisions as well as to provide a graphic history of the financial conditions and operations of the college over the years.

To be truly useful in the administration of the college, financial data should be presented in concise and readily digestible form emphasizing significant relationships. Wherever possible, operating results should be related to significant performance standards.

Every industrial enterprise concentrates a large proportion of its managerial attention to analyzing its financial data. If profits are going up, why are they going up and how can they be further increased? If the reverse is true, how can the situation be remedied?

Educational institutions, of course, are not generally operated for a profit. Nevertheless, if the most educational benefit is to be obtained for every dollar spent, knowledge and control of the sources, nature, and extent of income and expense variations are highly important.

Summarized below are the charts included in this financial category:

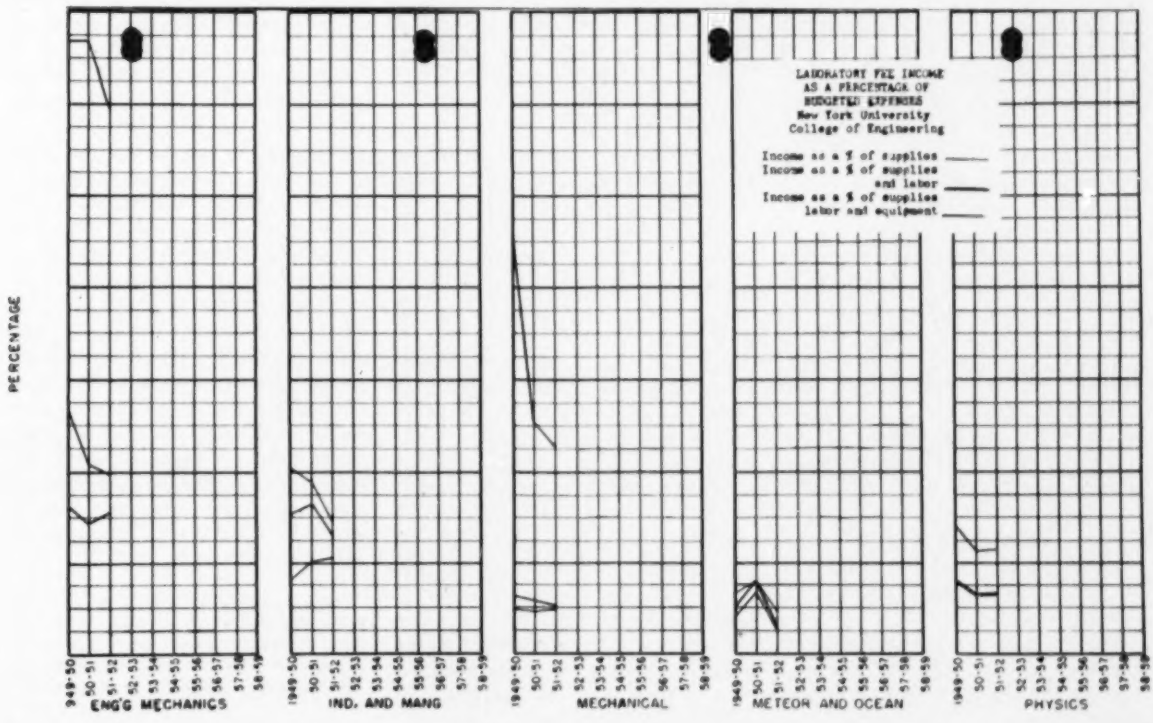
Academic Income (2 Charts). These charts show the changing values and relative importance of the varying sources of income for the operations of the college of engineering.

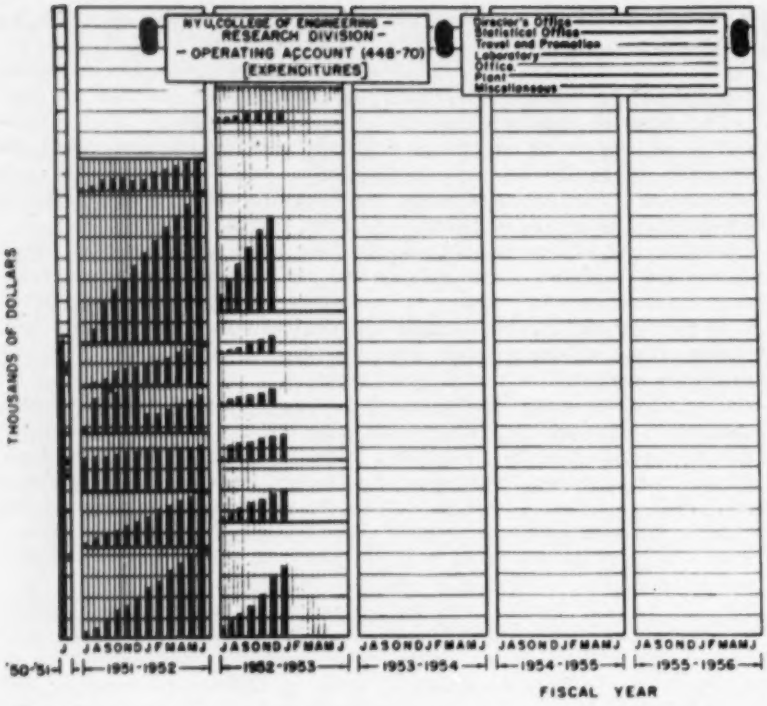
Line chart showing dollar values and bar chart showing per cent distributions for the last 40 years, broken down into categories of student fees, endowments, dormitories, gifts and others.

Academic Expenses (11 Charts). These charts portray changes in expenses of operating the college of engineering, the changing relationships of the various types of expenses, and their changing relative importances.

Line charts showing dollar values and bar chart showing per cent distributions for the last 40 years, broken down into categories of instruction, plant, office and general; further breakdown of instructional expenses into categories of salaries, laboratories, libraries, student activities, and others on line and bar charts; comparisons on arithmetic and logarithmic bases of instructional and administrative costs, as well as correlations of income, expense and enrollment trends; expense-

This financial chart compares fee income with expense budgets for 11 laboratories.





This chart, one of the research operations series, is presented here only in part; the full sheet shows expenditures through the year 1958-59.

income volume variations expressed both arithmetically and logarithmically.

Departmental Budgets (11 Charts). These charts provide a historical perspective on the costs of operating each of the departments of the college as well as a basis for considering the adequacy of various aspects of our fee structure, including the sizes of the laboratory fees in the various departments.

Bar chart for last 20 years of instructional budgets for each of the 10 departments; comparison of instructional expenses for each of the 10 instructional departments with student tuition point income in these departments; bar chart for last 20 years of laboratory budgets for each of the 11 laboratories, broken down into labor, supplies and equipment categories; comparison of laboratory fee income *vs.* laboratory expense budgets for the entire college and for each of the 11 laboratories.

Departmental Research Funds (14 Charts). These charts provide a continuing graphic operating statement of the financial changes in our research reserve accounts.

Income, expense and balances shown quarterly on line chart for the two research reserve funds plus a similar breakdown chart for each of the 10 departmental funds.

RESEARCH OPERATIONS SERIES

The research operations chart series provides current graphic summary reports on the status of operations in the research division of the college of engineering to assist in administrative control of these operations as well as planning for the future.

Summarized below are the charts included in this category, all plotted on a monthly basis going back several years for comparative purposes:

Financial Status (3 Charts). These charts reveal the current and past financial status and trends in the various categories of sponsored research projects.

Financial status of open research projects, with a distinction between active and inactive status and between private and government sponsorship; bar charts showing amounts received, invoiced, expended and total value; also line chart showing trends of outstanding invoices, uninvoiced expenditures, uncommitted contract balances.

Research Division Expenditures (7 Charts). These charts present a historical picture of expenditures in the research division, a comparison of these expenditures with standards, and a statistical criteria for evaluating these changes.

Line chart of open research projects broken down into salaries, overhead, travel, equipment, supplies and miscellaneous; bar chart distinguishing between expenditures on government and private sponsored projects; line chart comparing annual expenditure rates with available uncommitted contract balances, as well as rate of overhead recovery; expenditures statistical control chart comparing actual expenditures on project with standard budgeted expenses*; line chart of income, expense, balance remaining in the division operating account; multiple mercury bar chart of expenditures in division operating account in seven principal expense categories as compared with budgeted expenditures.

Employe and Project Status (5 Charts). These charts reveal changes and trends in the growth of research operations: How many employes? How large are the projects? How many governmental as compared to private sponsorships? How many new projects?

Line chart of employes on research division projects with breakdown into full time, part time and faculty; line chart showing number of open projects, number of new projects during fiscal year, and number of new projects and extensions during fiscal year; line chart showing value of new projects during fiscal year, and value of new projects and extensions during fiscal year; bar chart comparing number of government sponsored and private sponsored research projects; bar chart showing size distribution of active projects into six size categories.

Although educational institutions are not usually in direct cost competition with one another in a manner similar to industrial firms, they are nevertheless in indirect competition with one another to obtain the most effective educational benefit for every dollar spent. We have found that our control charting system is an important administrative aid in the effort to get maximum return from every dollar spent. It provides an effective means of concentrating administrative attention on the significant facts required for logical policy, planning and operating decisions.

*For a detailed description of this chart as an illustration of managerial reporting using statistical control technics, see Barish, Norman N.: Graphic Control Reporting, The Controller, June 1952, pp. 268-272, 281.

All the best places to

Look for Economies in Maintenance

ROBERT M. MUELLER
Superintendent, Department of Buildings and Grounds, Cornell University, Ithaca, N.Y.

THE MAJOR FUNCTION OF THE MAINtenance department is the constant renewal of structures and equipment so as to permit continued operation. It is not necessary to catalog the numerous functions that are performed since these are self-evident. However, I feel that a profitable discussion is one that covers what the administrators of this department must do in establishing the methods and policies so as to carry out their obligations successfully.

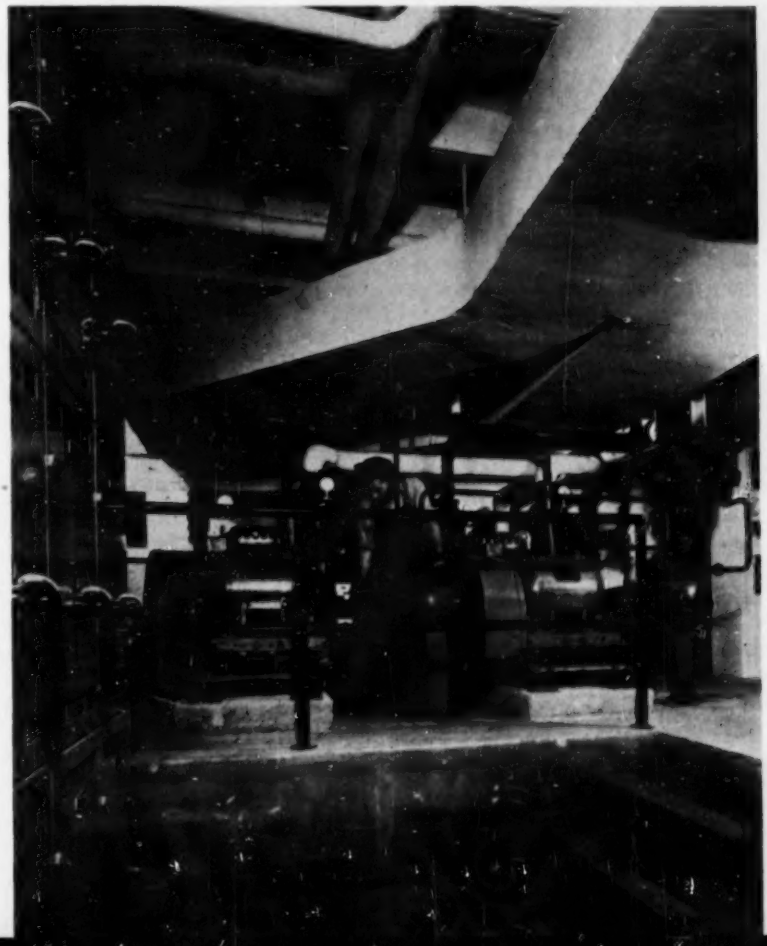
The maintenance department should take the initiative in establishing the standards of the maintenance program, the goals toward which the department will strive. Without such goals, efforts are lacking in direction. A building interior can be repainted once every 10 years or once every 50 years. Whether 50 years or 10 years is the proper interval we must ascertain based upon careful investigation. The top management should then be advised of alternative costs for varying standards of maintenance, and agreement reached as to the particular standards the institution desires, and, more important, can afford to maintain. Although a complex problem, it must be squarely faced so that the goals of the maintenance department can be clearly defined.

Once the pattern of operation is crystallized, it is then the department's function to produce the results as economically as possible. The maintenance budget should be based upon the work to be accomplished and the department's ability to do it economically. Many colleges have made a fundamental error in their budgets where the size of the department's budget is based upon the financial situation of the university rather than upon the physical plant itself, its size and general condition being taken into account. This method of budgeting results in a gradual deterioration of the physical plant to a point at which the maintenance costs become prohibitive. This tends to postpone work and results in continued expenditures for ineffectual remedies—strictly money down the drain. A better policy is one in which the standards of maintenance are first determined, and then the budgeting is based upon those costs that are required to achieve and hold the plant at a desired level. The department then should be asked to produce the result with ever increasing economies.

Economy of operation cannot be measured without relating it to the results produced. Merely stating that a car costing $1500 was a good buy is meaningless without stating whether the car is a 1951 Cadillac or a 1936 Ford. Our department must continually emphasize that economy of operation is not necessarily spending little or no money but consists in achieving the maximum results for a minimum cost. Examination of expense ledgers proves nothing unless results are measured against performance.

Since maintenance begins with new construction, it is important that the buildings and grounds department work closely with architects employed in the design of new structures. Whether future maintenance costs will be high or low often is determined on the drafting boards. Inferior materials and construction methods lead later to

It is much wiser to put emphasis upon preventive measures rather than upon the repair of broken down equipment.



From an address presented at the Eastern Association of College and University Business Officers Training Workshop.

high maintenance costs, oftentimes greater expense than a small initial saving in construction.

The operations of the maintenance department are so universal as to cut across all activities of the school. We provide the facilities in which teaching is carried out, and I feel the success of the teaching depends, in part, upon the condition of the physical plant. Poor lighting has a depressing effect and undoubtedly detracts from the emphasis of the lecture. Overheated stuffy buildings also detract from the teaching. Since we compete with the teaching staff for operating funds, we must be careful not to prejudice their operation by unwise expenditure on our part. Our department must take the position that the faculty comes first and attempt to keep the budgets of our department at a sensible minimum.

Our department works closely with the business office in estimating the effect that any new construction will have upon future operating budgets of the university. Before a new building is constructed we present our best estimate as to the annual operating cost, including such items as utility services, building care and maintenance, insurance, and all other items that become continuing commitments for the university. This enables the business officers to realize in dollars and cents the effect of this construction.

WORK CLOSELY WITH FACULTY

We also work closely with the faculty in the planning of new structures so as to advise them of these matters and enable them to settle upon a building program which makes good sense. Many of our staff are surprised to discover how much it costs to operate a new building and, once acquainted with this fact, often modify their program as a result.

In our relations with the faculty we can do more mutually to determine means of utilizing the existing physical plant to the maximum. Space studies at Cornell have disclosed to us that we are using our available space approximately 35 per cent of the time. Certain of our spaces, because of their special nature, cannot be used oftener than several times a week, although the commoner spaces, such as classrooms and auditoriums, could be utilized more through careful planning.

Our buildings and grounds department works closely with the purchasing department since we are both in the business of buying finished products. We can pool our knowledge so as to establish standards and materials that will be selected for maximum long-range economy. Standardization of materials also leads to many other benefits since it avoids the heavy stocking of many parts and replacements.

METHODS OF ORGANIZATION

Most universities have grown from small beginnings and consequently have not clearly defined the duties of their organization. Modern industry has found that the lines of organization must be clear to each individual so as to provide a smoothly functioning group. I favor the line and staff organization that consists of the line officers, whose principal function is to get the work done, and the staff, who, although not charged with the specific task of completing the work, provides the technical information or drawings that enable the utilization of the production staff at the top level.

I feel that we would be wise to relieve our production men of much of the planning work presently done by them so as to enable them to concentrate their full energies on achieving results. These men should be given enough authority to enable them to meet their problems as they arise rather than attempting to control the many activities from one main office. The controls necessary can be achieved through proper inspection and accounting. Good accounting enables management to control the operation and the individual supervisor to make corrective measures readily.

In organizing the budgeting and accounting, the university would be wise to consider some methods used by industry. A commercial company, for example, in projecting its budgets analyzes what work will be done during the ensuing year and then establishes this as a budget estimate. As conditions develop during the course of the year, these budgets are revised quarterly so as to enable a rapid shift in planning should the expenditures indicate that this is necessary. This gives the company a certain amount of control and a certain amount of flexibility that enables it to meet its emergencies easily and comfortably.

In universities we are likely to parcel out funds a year and a half in advance by the use of line item budgeting. There is no one who can guess expenditures that well in advance; so it should be recognized that these figures are tentative and are subject to change during the course of the year. However, in the operation of line item budgeting, the figures initially established take on a solidity that makes the operation less flexible. The tendency is to freeze the expenditures in advance since the system puts a burden on the supervisor to spend his allotted funds so as to substantiate his next year's requests. If we have a light winter and the walks do not require much shoveling and care, that is no reason for reducing that budget for the ensuing year.

I prefer a system where the budget estimates are revised quarterly. Under such a system, it is necessary that good accounting control be established. Budgets can be projected on a month by month basis so that the monthly reports compare expenditures to date directly with the budget estimate to date. This enables the management readily to make allowance for variations in expenditures owing to seasons or patterns of operation. The reports are prepared so as to compare this year's expenditures with comparable expenditures from the preceding year. Comparison of current expenditures with last year's and an estimated budget expenditure gives two measures to control the operation, and it is immediately apparent when expenses of a particular division are out of line.

WORK ON YEAR-ROUND BASIS

Scheduling of work the year round has many advantages. It gives the men more confidence in their management and improves the efficiency and morale of the whole force. The maintenance department does not build up large forces during peak activities and then attempt to carry excess staff through the slack periods. It is human nature to hold the better men, so slack period work is always much more expensive. Once the work is scheduled on a year-round basis, the management can attract a better class of mechanic. The stability of a work force eliminates the hiring of marginal workers and eliminates an investment in training time.

We have set up a new system for handling maintenance of long-term items, such as roofs, plumbing fixtures, and so forth. To finance the renewal of these items, we established a replacement reserve. We continue to budget an annual amount for these items which is transferred into the replacement reserve. The replacement reserve is then available for large repairs which come at less frequent intervals and

which can be done without the budget of the university as a whole being disrupted. Theoretically our budget should be so established that we can meet these large expenditures without requesting additional appropriations to cover them.

Of paramount importance in organization is the establishment of a sound personnel policy. The policies should be so clear that they can be written and distributed to all employes. Further, I believe that the institution has to establish a policy as to whether it will employ workers at a rate somewhat higher than the prevailing rates or at a cheap rate of pay. My experience in business leads me to believe that you get just about what you pay for. I strongly favor high rates of pay since they enable the employment of high caliber personnel. Such people actually do work more economically than do the lower rate of help.

In organizing our work for the maintenance and repair of buildings, we have made rather careful studies to determine what is a proper expenditure to maintain our physical plant adequately. In determining our figures we took off all of the quantities in a building, such as the areas of walls and ceilings that have to be painted, areas of floors that need recovering, the number of light fixtures necessary to produce a given level of illumination, and similar data. We then assumed that replacements or maintenance would have to be made in certain cycles—interior painting, as an example, on a cycle of 10 years, or, in the case of the replacement of a slate roof, on a cycle of 60 years.

DETERMINE TOTAL BUDGET

From these data, we then determined an annual amount that we would allot to the maintenance of structures and from that our total budget. We found that the cost estimates related more closely to the square footage of floors than to the cubage of the structures, and consequently our present unit prices are based and checked against floor areas. We believe that a figure of 20 cents per square foot is approximately the proper budget figure, and we have broken the figure down into two categories:

1. *Routine Maintenance*—covering renovation of wear, plumbing repairs, heating and replacement of short-length items.

2. *Replacements*—covering replacement of major items or long-life items, such as roofs, plumbing fixtures, flooring, and the like.

The breakdown using this method follows:

ROUTINE MAINTENANCE

Interior Work:		
Painting	21%	
Miscellaneous	10%	
Exterior Work:		
Painting	6½%	
Carpentry	1%	38½%

REPLACEMENTS

Interior Work:		
Lighting	13%	
Flooring and Stairs	9%	
Equipment	15%	
Plumbing	9%	
Exterior Work:		
Roof, Skylights, Flashing	6%	
Gutters and Downspouts	1½%	
Masonry Repointing	8%	61½%
		100%

Once standards of maintenance have been determined, it is our goal to analyze the best means of producing these results at minimum costs.

In scheduling work, we can establish a production control through which we pass all requests for work to be done. This department then coordinates the various trades on the work and schedules the start and completion of major jobs, allowing a certain cushion for minor work. During the peak periods, the production control department lets out certain work so as to avoid building the maintenance crews. It then becomes obvious that standards of methods must be established so as to carry out the more repetitive jobs.

There is a tremendous amount of economy inherent in scheduling the work so that it is grouped in blocks rather than in a series of small jobs around the campus. It is better to assign a group of rooms for complete going over. Every job, large or small, requires set-up time. There is a certain amount of trucking and waste motion and the more the work is consolidated, the greater is the amount of productive work done in relation to lost time. We make it a practice at Cornell to put into good condition every item at the site of a given job so as to avoid numerous later trips to fix broken hardware, glass, and so forth. We have also initiated a program of having the building custodians submit monthly reports to the repairs division so that all minor repairs can be done at one time. Since our shops are remote from the buildings and our campus is so spread out, every $2 job costs us $20 to do and only by consolidating these small items can we reduce the costs within reason.

We analyze where we can make large investments in physical plant that will produce savings bearing a good relation to the investment. We do not consider these investments as operational expenditures and, consequently, these investments have to stand on their own feet. In the last two years, we have spent approximately half a million dollars in capital improvements because the resulting operating economies were approximately 10 per cent, or $50,000 a year. By making these investments, we can repay the investment, pay interest on the loan, and still show a net reduction in operating cost. Typical of such an investment is the installation of sprinkler systems in buildings, thereby reducing insurance premiums.

Another installation typical of this type of thinking is our decision to convert our hydro-electric plant into semi-automatic operation, which permits its functioning without operating labor. The investment was nominal, approximately $20,000, and, once made, produces an annual savings in labor of approximately $12,000.

PREVENT BREAKDOWNS

We put emphasis upon preventive measures rather than upon the repair of broken down equipment. We also try to keep in mind the thought that our institution will operate for another 200 years. Consequently, the class of maintenance and choice of materials are predicated upon that assumption. It is foolish to attempt to save money by substituting inferior materials for proper ones. The shortened life of inferior materials will result in higher maintenance costs.

In conclusion, we have established the policy that long-term cost is the only true measure of the success of our activities. Work, if to be done at all, should be done well. The best place to look for economies is in the organization, spirit and drive of men who actually are doing the work, not in shorting the work, using inferior materials, or other false economies.

DESIGNING ROOMS FOR STUDY AND SLEEP

S. EARL THOMPSON
Director of Department of Institutional Management
Michigan State College, East Lansing

WITH THE RECENT UPTURN IN ENrollment in many institutions of higher learning, administrators concerned with housing students have been reminded of the serious problems that developed at the end of World War II and have begun to think seriously about the increase in enrollment anticipated by 1960.

Most colleges and universities must depend largely upon institutionally operated housing and food service facilities to care for the needs of additional students beyond those now enrolled. Such institutions have, in most cases, already constructed most of the facilities that their resources in both cash and credit will permit. They are now faced with the problem of planning to meet an anticipated 50 to 100 per cent increase in enrollment, which cannot be accommodated without seriously debasing housing standards unless major programs in housing construction are undertaken.

The modern social-economic situation makes it highly improbable that any significant part of the need for additional space will be met by the private investor. Private homes constructed recently and those planned for the immediate future are, in the main, of simple, functional and, in most cases, minimal design. Families are not building an extra room or two for tenants.

The construction of large-scale residential facilities for students has not proved sufficiently lucrative in the investment market to interest most persons or corporations with sufficient resources to finance a project of this type. The housing of students is a seasonal business, since the period of residence during a normal academic year is in the neighborhood of only eight months, and most institutions of higher learning operate summer sessions with relatively small enrollments. Students are not normally able to pay for such facilities at a rate high enough to carry the operation through a period of low occupancy, meet operating costs, and pay a reasonable return on the investment.

Officials concerned with university housing and finance are faced with a situation where they must construct additional housing if they are to meet the demand for higher education. This construction must be undertaken in a period of high cost and at a time when the financing of such facilities has already become a problem. It is, therefore, extremely important that every consideration be given to the problem of providing facilities that meet the needs of the institution and its students at minimum cost.

The basic considerations in the design of institutionally owned residence halls are:

1. Implementation of the educational objections of the college or university to be served.

2. Provision for the needs and interests of students to be housed and fed.

3. Economical construction, operation and maintenance of the facilities to be provided.

4. Ability to meet the required financing plan.

Four basic plans for the construction of study and sleeping facilities for students have been used: Type 1—suites that provide separate rooms for study and sleeping; Type 2—study rooms with a central dormitory for sleeping; Type 3—squad room facilities composed of large open areas used as sleeping dormitories and study rooms of the seminar type; Type 4—study-sleeping rooms in which both functions are cared for in one room.

Suites (Type 1) provide facilities of maximum attractiveness; however, it is obviously an expensive plan since the square foot area necessary per student is increased by supplying separate space for sleeping that is used for no other purpose. Type 2, to a lesser degree, presents the same problems in design and cost. Type 3 makes possible the least expensive type of construction but also offers facilities that may be considered substandard in that they provide no opportunity for privacy or semiprivacy in their study or sleeping areas. It is perhaps for these reasons that most student housing facilities constructed recently have been of Type 4.

A study of residence halls constructed since World War II, conducted in 1950 for the University of Illinois by Skidmore, Owings and Merrill, architects and engineers, shows that approximately 65 per cent of the total space provided in residence halls is devoted to facilities for study and sleeping. Such rooms are largely repetition of a basic plan. Any good or bad features included are repeated many times. A minor item affecting usability or cost that appears in each study-sleeping room may have a major effect upon the total project.

The study-sleeping room is designed to provide facilities for four primary functions: study, sleeping, relaxation and storage. The minimum equipment for each person usually considered necessary to implement the study function is a desk, which may occupy approximately 30 by 40 inches of floor space; a study lamp, which is usually placed upon the desk; and a straight chair, which will occupy approximately 16 by 16 inches of floor space. The equipment for each person necessary for the sleeping function is a properly equipped bed, which will occupy approximately 40 by 80 inches of floor space.

Each study-sleeping room for two students is usually equipped with a lounge chair, which will occupy approximately 32 by 32 inches of floor space. Space for storage may be divided into drawer space and shelving for school supplies and books, which may be located in the study desk, and for clothing, which usually is provided in a chest of drawers that may be

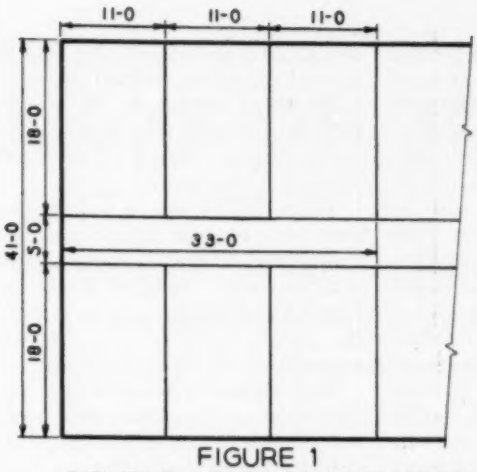


FIGURE 1
DOUBLE ROOM ORIENTATION
NARROW SIDE TO EXTERIOR

One hundred and sixty-five square feet of corridor space is required for 12 students in Figure 1. The rectangular section of Figure 2 requires 270 square feet of corridor space for 12 students.

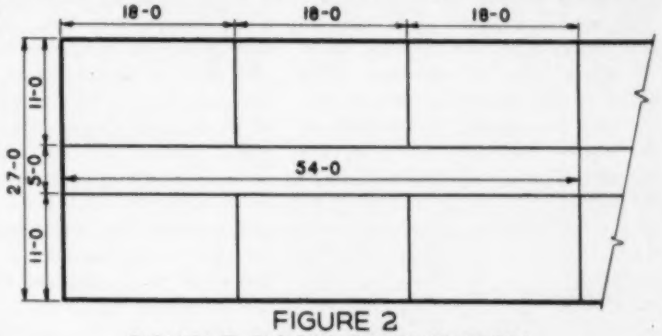


FIGURE 2
DOUBLE ROOM ORIENTATION
WIDE SIDE TO EXTERIOR

either free standing or a part of a wardrobe-chest combination. In either case, it is anticipated that drawer space for clothing will require at least 20 by 30 inches of floor space. Hanging space may be provided in either a built-in closet or hanging space in a wardrobe or wardrobe-chest combination and will probably require a minimum of 24 by 30 inches of floor space. Storage for wastepaper is normally provided through the use of a wastepaper basket, which is estimated to require approximately 15 by 15 inches of floor space.

The design of the space to be used involves the arrangement of the necessary equipment within a given area including provision for access and circulation. Three major alternatives are open to the designer: (1) a choice concerning the shape of the room and its orientation with respect to the exterior of the building; (2) the use of a double-deck bed rather than two single beds in a double room, which will reduce the floor space required by approximately 36 square feet; (3) provision for flexibility in furniture arrangement or a more inflexible plan requiring less floor space but permitting no rearrangement of furniture.

Assuming that a simple cube is the most functional and economical building shape to construct for this purpose, the more unusual room shapes, such as triangles, circles and hexagons, may be eliminated from consideration. If a square room is used, its orientation with respect to the exterior walls has no effect upon access space required. If, however, a rectangular room is used, its orientation may have a significant effect upon the access space required in the corridor. Figures 1 and 2 illustrate this point. Figure 1 shows a section of six double rooms of 198 square feet each with the narrow side of the inside rooms to the exterior. In this section of rooms 165 square feet of corridor space is required for 12 students, or an average of 13.75 square feet per occupant. Sixty-six linear feet of exterior wall is required, or 5.5 feet per student.

If the rooms are turned with the wide side of the interior rooms to the exterior as in Figure 2, 270 square feet of corridor space is required for 12 students, or an average of 22.5 square feet per occupant, and 108 linear feet of exterior wall is required, or 9 feet per student.

In this case corridor space is increased by 8.75 square feet per student when the 18 foot wall of the room is turned to the exterior. Although this arrangement enables the planner to provide more natural light and ventilation for the room, it also increases the cost in significant amount owing to access space and to additional exterior wall construction. The process of narrowing the room is limited by problems of furniture arrangement, appearance and adequate natural light and ventilation in areas farthest removed from exterior walls. Although no absolute figure can be supported, it is unlikely that a width much less than 11 feet will be found acceptable in a study-sleeping room for two students.

The second alternative involves the use of two single beds *versus* one double-deck bed. Use of the latter raises questions concerning health and safety. The committee on the hygiene of housing of the American Public Health Association does not favor the use of such beds owing to the danger of spreading disease through spray infection. Tenants may injure themselves in falls from the upper level. It is difficult to maintain proper temperature control for occupants of a double-deck bed; one occupant is near the floor while the other is relatively near the ceiling. This arrangement may lead to temperature differences of as much as 10 degrees between the levels of two beds.

Other undesirable features of the double-deck bed are that more time is required to make up and change one double-deck bed than two single beds and many workers find double-deck beds awkward and annoying to make up. One occupant in a bed of this type may disturb another by moving the frame when getting in or out of the bed or by motion while in bed that may shake the entire piece of furniture.

Against the unfavorable factors the designer, operator and financial officer must weigh the saving in floor space that results from eliminating one single bed in a double room. This saving may be estimated at approximately 36 square feet, assuming that a 36 by 76 inch mattress is supplied with bed ends and with access space on three sides for cleaning and bed making purposes. Assuming a construction cost of $15 per square foot, this saving in space would reduce the construction cost by $540 per room, or $270 per student housed.

Knowing these facts the potential owner must decide between:

1. Two single beds that will increase the double room size by approximately 36 square feet and will increase the cost of operation by providing

more floor space to light, clean and maintain and more cubage to heat.

2. A double-deck bed with the undesirable factors listed, which will affect student acceptance of space but will reduce the floor area by about 18 square feet per student. (The actual dollar saving in construction cost may be computed by multiplying the square foot area saved by the square foot cost of construction in the area under consideration.) It is, of course, possible that the lower rental rate that may result from a reduction in construction cost may more than offset the undesirable features in the minds of prospective tenants.

The third alternative involves the degree of flexibility in the arrangement of furnishings that should be provided. Decisions concerning this problem should be based primarily upon the following considerations:

1. The educational objectives of the institution to be served.

2. The reactions of students to a fixed environment.

3. The availability of funds for construction.

A study of living quarters on shipboard, particularly in submarines, will indicate that an individual may be provided the minimum area required for sleeping and study within relatively little space. The effect of such environment upon the attitudes, ideals, mental and physical fitness of the student might be such that his effectiveness as a personally successful and socially acceptable member of society would be seriously impaired, since individuals placed in close confinement may suffer from symptoms of claustrophobia, such as fear, restlessness and depression.

Students have highly individual ideas about the arrangement of room furniture, as any person will testify who has observed student conduct in places where they live. Any given arrangement of furniture will almost inevitably be changed soon after the occupant moves into a room. This effort to individualize his surroundings appears to be a basic and urgent drive. The effects of severely limited space allocation and fixed furniture arrangement that may frustrate the prospective tenant should be carefully considered as the planner approaches the inflexible, minimum room size; however, if only the minimum room size can be provided, these dangers may have to be faced in order to provide any facilities.

As Figure 6 shows, two students may be housed in a room with a double-deck bed and an inflexible furniture arrangement which has only 150 square feet of floor space, a saving of 59 square feet from the double room with two single beds with a reasonable degree of flexibility in furniture arrangement. (Fig. 3.) Approximately 36 square feet of this amount may be attributed to the use of a double-deck bed, the remainder to the reduction in flexibility.

The saving in original construction cost from the use of this plan as against the relatively flexible room with two single beds, as shown in Figure 3, is $885 per room, or $442.50 per student, assuming a cost of $15 per square foot.

With the loss of flexibility in furniture arrangement a double room with two single beds can be provided with only 168 square feet. (Fig. 5.) The minimum room with a double-deck bed may be enlarged to provide for some variation in furniture arrangement by increasing the area to 165 square feet as shown in Figure 4. From these examples it is obvious that a variety of possibilities may be developed involving single *vs.* double-deck beds and flexible *vs.* inflexible furniture arrangements. It is also possible to evaluate each in terms of capital cost.

As housing and finance officers in institutions of higher learning face the problem of housing construction, they must develop a technic of evaluation that will enable them to consider alternatives from the standpoint of cost as well as desirability. Decisions concerning these matters must be made by a given institution in the light of its local needs and resources since there can be no best solution applicable everywhere. It is obvious that colleges and universities must buy housing after looking at the facilities as they relate to the general educational objectives of the institution and to its financial resources.

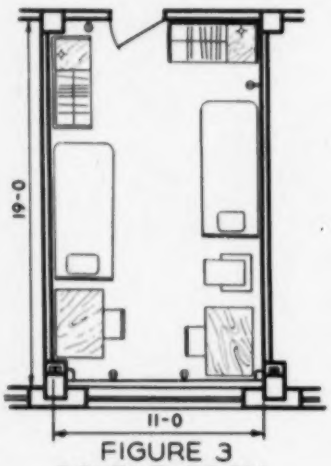


FIGURE 3
DOUBLE ROOM
209 SQ.FT.

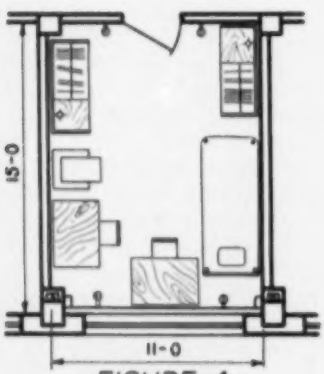


FIGURE 4
DOUBLE ROOM
165 SQ.FT.

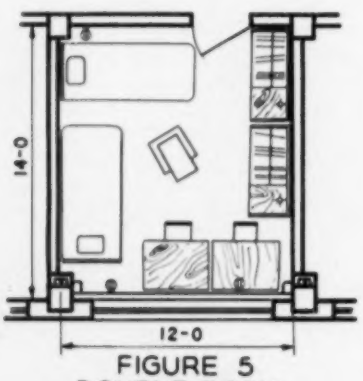


FIGURE 5
DOUBLE ROOM
168 SQ.FT.

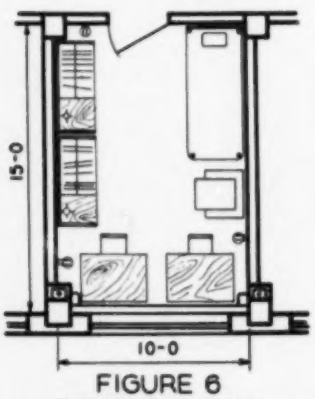


FIGURE 6
DOUBLE ROOM
150 SQ.FT.

LIGHT ON SCHOOL PLANNING

Installed under one roof in Stanford University's school planning laboratory are the latest materials and devices for building and equipping schools

PETER C. ALLEN
Director, Information and Publications
Stanford University

A FEW ASSORTED DISPLAY MATERIALS in a basement room at Stanford University snowballed into a unique project in the education field—the Stanford School Planning Laboratory.

The laboratory is the first center of applied and fundamental research in the United States viewing school construction planning as a whole. It is designed to test and integrate the best discoveries of all groups that play a part in educating children, and to turn research into action. The purpose is clear: to set a course leading to better school environment for American children.

The laboratory is a project of the Stanford School of Education. Dr. A. John Bartky, former dean of the school, and his associate dean, Dr. James D. MacConnell, originated the laboratory.

Dr. MacConnell's idea rapidly outgrew the original limited space. And the haphazard expansion of the project was abandoned in favor of a master plan.

COST $80,000

The laboratory now occupies five rooms in the Education Building, and the research equipment and displays have multiplied many times over. The entire project has been estimated to represent an $80,000 expenditure for labor and materials.

The laboratory is a school for educators. It provides aspects of training heretofore unidentified and inadequately provided in other programs for preparing schoolmen.

It is believed to be the only laboratory of its kind where educators, architects and school board members, as well as manufacturers, interested in the latest devices for equipping schools may see them installed and demonstrated under one roof and where they can see their building problems answered visually.

The laboratory has been made possible through the cooperation of some 100 manufacturers of school equipment and building supplies. The companies have been willing to show their products on a performance basis in which they run the risk of criticism as well as praise. Some of the construction materials displayed are experimental, some have been produced and tested but not widely adopted, while others are already in common use in modern schools throughout the country.

Graduate students did most of the installation work in the early stages of the project. But the more complex additions in recent months have been installed by professional men skilled in the art of applying these materials.

Displays range from the most modern types of lighting equipment to heating and ventilating units; from desks and chairs to modern chalkboards, and from flooring to acoustic sidewalls and ceilings, made from a variety of materials including spun glass and aluminum.

Seven firms have supplemented their support with the establishment of a fellowship, called the Coordinated Classroom Fellowship. The grant supports scientific study of the effects of physical factors in the classroom upon the development, health and learning ability of school children. In addition to this fellowship, other companies are sponsoring fellowships in their own fields. An average of 25 graduate students each year work out research problems in the laboratory in their master's and doctoral degree programs in education. Many of these students are school administrators with years of practical experience behind them.

MODERN CONSTRUCTION

The school planning laboratory is itself an example of modern school construction technics applied to specific problems. One problem was to create a variable, classroom-seminar area. The result is a room with a variety of lighting and other controls in which Stanford seminar groups actually can experience the effects of varying degrees of temperature, brightness and color.

Lining the walls of the room are demonstration inserts dealing with (1) control of natural light; (2) control of artificial light; (3) surface control of light and color; (4) heat and ventilation control; (5) chalkboards and tackboards; (6) furniture arrangement and equipment, and (7) a model classroom with movable miniature furniture and equipment and controlled light from an adjacent "sky" room.

Among the exhibits is a specially built cutaway model of a heating and ventilating unit that actually oper-

ates beneath an insulated glass covering.

In the same room part of the ceiling is of a new type that combines both lighting and sound control. Fluorescent light tubes are installed above a ceiling of frosted glass, enabling the light to be diffused over the entire area of the ceiling. Sound control is provided by suspended acoustical baffles that support the ceiling. The laboratory is the first to demonstrate this new type of illumination and sound control west of the Mississippi.

Another feature of the same room is the scale-model miniature classroom used for working out and demonstrating experimental combinations of light, heat, color, equipment arrangement, and other environmental factors that affect the learning situation. It is equipped with specially built desks, scaled 3 inches to the foot, that are fully adjustable to all the posture and visual needs of school children.

The miniature classroom has a window wall with daylight conditions simulated on the outside. The model can be used to show how daylight can help to effect a balance between the amount of light near windows and that across the room, creating a minimum of glare on desk tops and other working surfaces. The effects of shades, louvers, glass block, flat glass, and other materials controlling fenestration patterns are demonstrated. That proper decoration of a room can increase effective lighting 500 per cent can also be scientifically demonstrated in the model as well as in a full-size room in the laboratory.

The approach corridor to the classroom-seminar area has a series of lighting controls that permit the creation of levels of diffused light simulating daylight conditions. The effect is so successful that visitors often refer to this overhead panel as a skylight, although the laboratory is in the basement. One wall is a mock-up of the exterior of a classroom, and the other contains back-lighted display panels for viewing transparencies. The entrance to the laboratory displays exterior building materials and the fully constructed exterior wall of a small school building.

A conference area used for meetings with school-community groups is adjacent to the administrative section, which will house the proposed bibliographic center. Assembled in this center will be original and microfilmed documents and a bibliography of every known work dealing with school planning.

A fundamentals laboratory provides space for experiments in light and col-

Classroom unit of Stanford School Planning Laboratory. Here seminar groups test light fixtures, acoustical treatments, furniture arrangement, color combinations, and heat control. Back-lighted display panel is for viewing x-rays in posture studies.

or, heat physics, sound control, and elementary mechanics. It also serves as a classroom and houses the training aids library. Classroom furnishings from kindergarten through high school are shown. The latest supplies for constructing and maintaining sanitary facilities are included.

Expansion is still under way. The laboratory has recently acquired another area for a working display of small tools and other specialized and general shop equipment. The shop will be used to construct other models to be displayed in the laboratory and to be taken into the various school districts with which the university is cooperating. This is a principle illustrated throughout the laboratory. Much of the furniture, flooring, construction materials, electrical equipment—such as clocks, even the doors—play a double rôle.

Available university resources are already being used to finance the laboratory and the research and educational program it accompanies. But it must receive substantial support from outside sources if the full potential of the work is to be realized.

The most promising source of additional financial support may be contracts to do research for the manufacturers of school building materials, school supplies, and equipment, and for those involved in constructing schools, such as architects and engineers.

Some income is now derived from the school planning consultation services provided by the laboratory and its resident and associated consultants. Most of the revenue from this service is applied toward support of the laboratory and makes it possible to supplement the staff provided by the university.

Field consultation services are available to any school district or school architect and engineer wishing assistance in planning school facilities. These are arranged on a contractual basis through the laboratory.

Many communities have taken advantage of the service since its establishment in 1949. At the invitation of school boards, Stanford professors and teams of graduate students make thorough surveys of the immediate and long-range needs of participating districts. It is a detailed survey that goes thoroughly into population problems, school district organization, analysis of building needs, present and future, and how they can be financed.

Foyer of Stanford School Planning Laboratory shows exterior construction materials. One wall here is fully constructed and a variety of materials is shown on the others. A hundred manufacturers of building materials and of school equipment and supplies have cooperated by putting their products to the performance test. Some of the construction materials displayed are experimental, some have been produced and tested but not widely adopted, while others are already in common use in modern schools throughout the nation.

When the district's problems are completely analyzed, a booklet is prepared setting forth the problems and the answers.

"Constructing a planning laboratory is a long-time endeavor," said Dr. MacConnell. "It requires the cooperation of a great number of people with a desire to improve existing conditions through scientific study." Dr. MacConnell's main concern, however, was the use that would be made of such a laboratory, once it had reached the place where some of the building questions could be answered. This concern no longer exists since already more than 3000 school officials have visited the laboratory to discuss their school building problems. A normal week's attendance is now between 50 and 75.

In addition, last summer saw more than 200 students in specialized school planning classes working in the laboratory.

Graduate students and professors concerning themselves with the Stanford School of Education hope the school planning laboratory will never be finished. As methods and equipment improve in lighting and other fields, such as heating, ventilation, or interior and exterior construction, they plan to keep pace. The laboratory is being built along with, and on the basis of, theories developed in school planning. And the scientific approach to this area is relatively new. As the theories build upon themselves, so will the laboratory. There is no closing date on this Stanford project.

A classroom building should be...

FUNCTIONAL

ATTRACTIVE

ECONOMICAL

like this one at M.S.C.W.

WILLIAM I. ROSAMOND
Architect, Columbus, Miss.

ENTRANCE INTO MEMORIAL COURT

PARKINSON HALL, THE CLASSROOM building recently completed on the campus of Mississippi State College for Women to replace a structure erected in 1902, incorporates a number of architectural features designed to increase the usefulness of the building and to allow for future expansion. The building, which was erected under the administration of President B. L. Parkinson, is outstanding not only for its functional design and attractive appearance but also for economical construction.

The building houses the departments of history, education, political sciences, classics and philosophy, secretarial science, and foreign languages. As these are fast growing departments, it was necessary to design the building in such manner as to allow for expansion of the various departments, with classrooms designed so as to be adaptable to the needs of all departments.

Parkinson Hall also incorporates an auditorium of sufficient size to allow for the meeting of the entire freshman class, or for all divisions of any one department.

Included in the building are 28 classrooms, 22 offices, an auditorium seating approximately 450 persons, 12 storage rooms, and 6 toilets. The main part of the building is two stories, with a one-story wing so designed that a second story can be added without disrupting the function of the present building.

Wall-hung convectors connected to existing steam tunnel and school power plant provide heating facilities. All classroom convectors are housed in unit covers with metal shelving forming a continuous shelf and storage space along the entire outside walls of each classroom. The metal shelving is partially open.

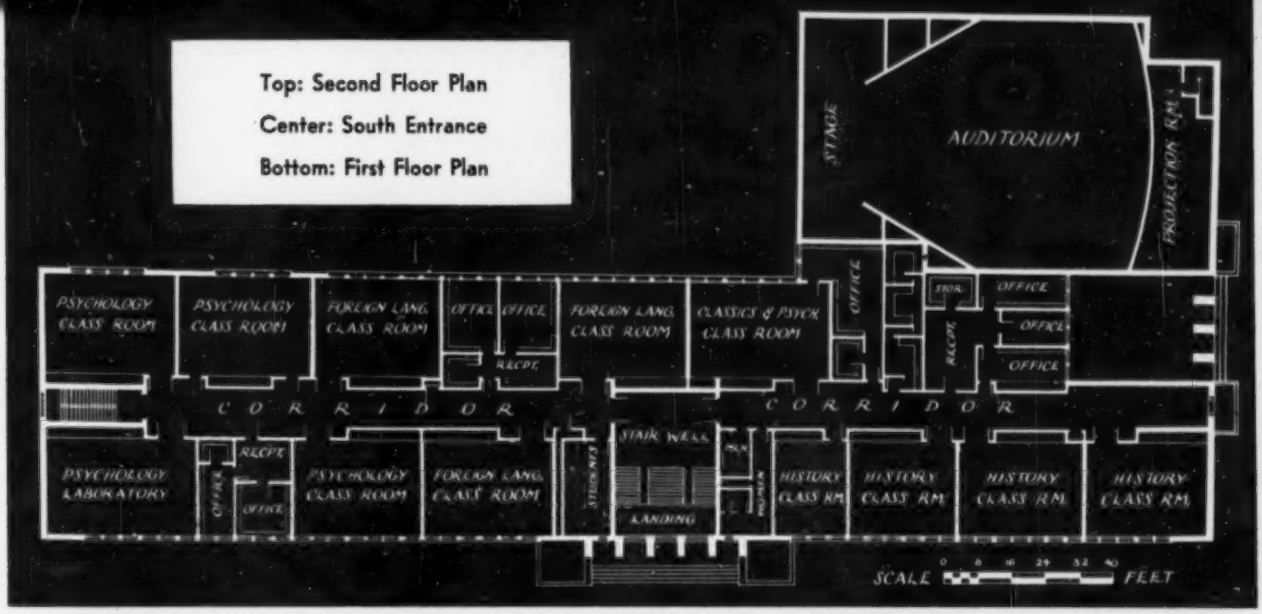
The auditorium is heated and ventilated with a warm air system; when heating is required the air handling units are so controlled that they recirculate the air within the building until it reaches a temperature within 2 degrees of that desired; then the unit automatically switches to an intake of outside fresh air and provides fresh air tempered by heat from steam coils properly controlled to prevent the discharge of cold air. During the air-cooling season, large exhaust fans, providing changes every two minutes, circulate fresh air.

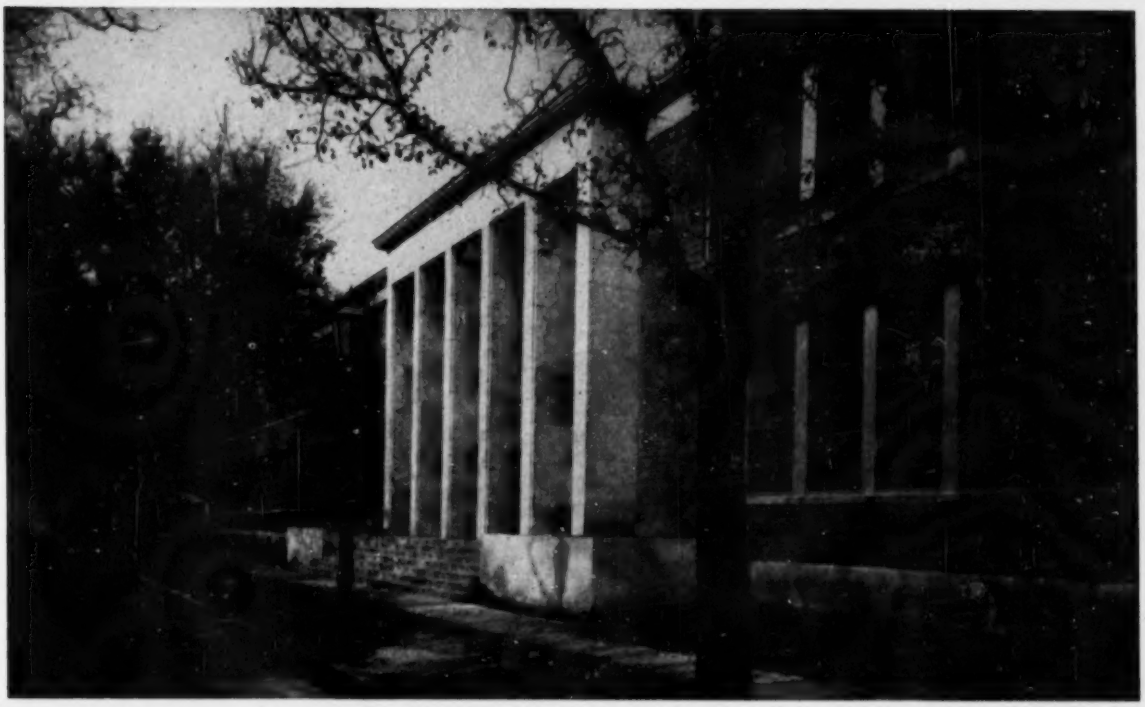
Forced ventilation of the entire building may be provided at any time

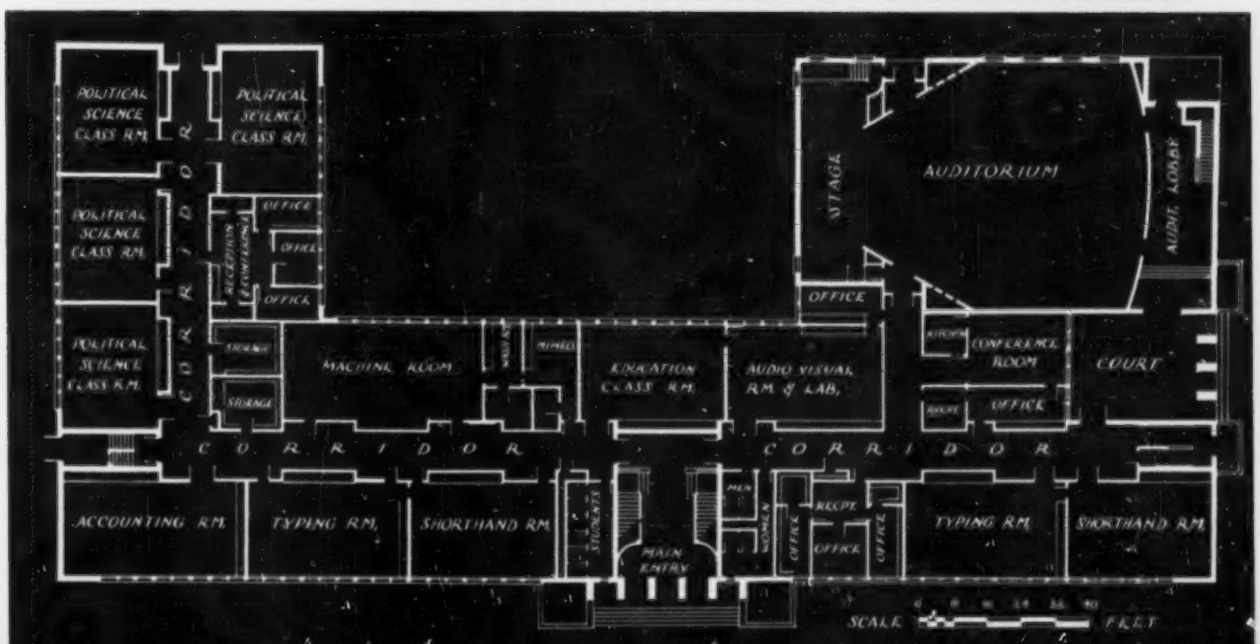
Top: Second Floor Plan

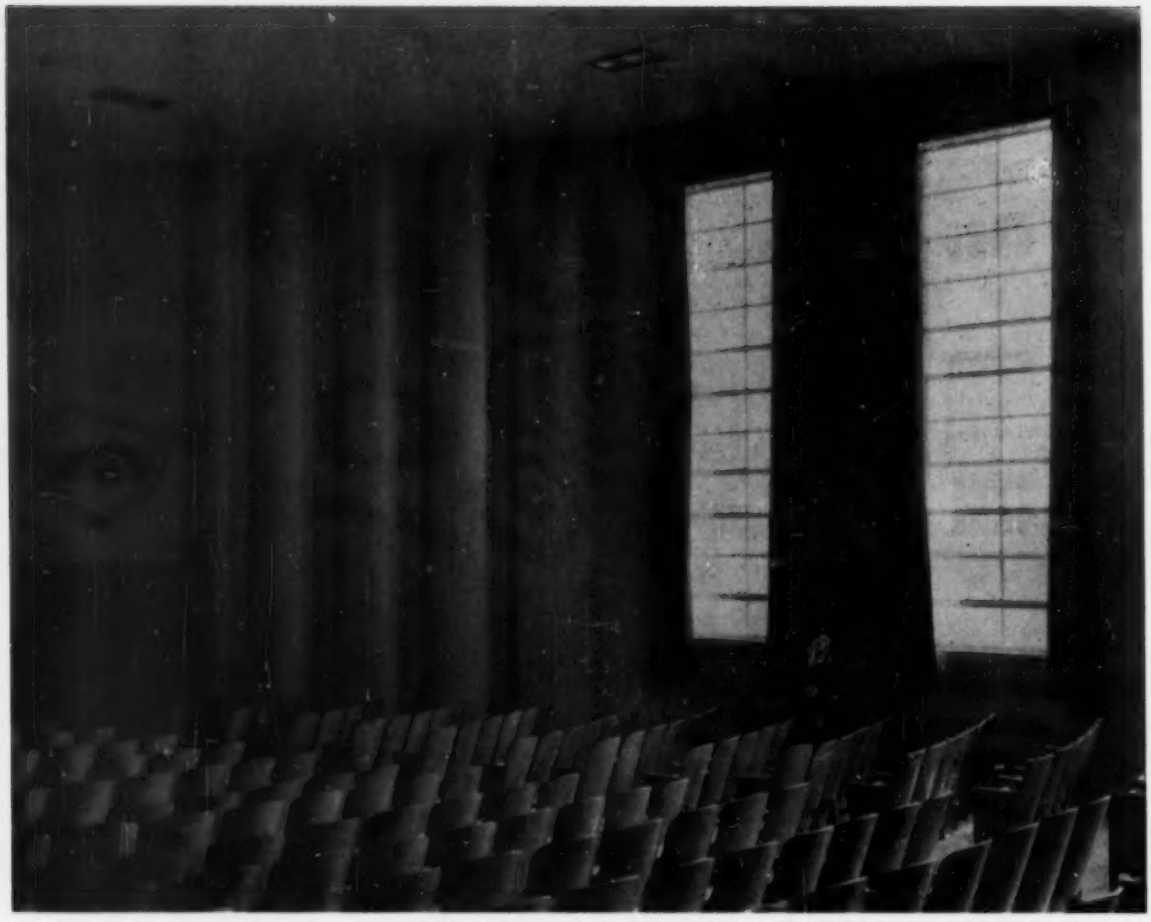
Center: South Entrance

Bottom: First Floor Plan









The auditorium in Parkinson Hall is of sufficient size to allow for the meeting of the entire freshman class, or for all divisions of any one department.

by utilizing the plenum chambers which were provided by the corridor ceilings being furred down, thereby allowing installation of grilles into each room. This chamber over the corridor also provides access to all utilities, permitting changes in heating, plumbing and ventilating systems at any time. In addition to the ease of maintenance thus provided, all partitions in the building may be rearranged to fit future requirements caused by changes in teaching methods or curriculums without the structure of the building's being affected.

All rooms are equipped to meet visual education requirements. Classrooms have special shelving and wardrobes containing sufficient space for hanging of wraps, and also cabinets for the various instructors. Darkrooms are provided on both floors. Chalkboards throughout the building are light green glass.

One of the unusual features of the building is the design by the architects of a new type of shadow box. Installed above the ceiling line, it conceals either shades or draperies as the department head may require. These shadow boxes are appreciably cheaper than the conventional type, and, in addition, do not interfere with the operation of the top sections of windows or the passage of light to the extremities of the room.

CONSTRUCTION DETAILS

GENERAL: Completely fire resistant. Exterior walls, solid load bearing masonry; hollow tile with brick veneer. Interior framework, steel columns and beams with bar joists for floor construction. Partitions, hollow tile.

FLOORS: Thin concrete slabs on steel lath, covered with 3/16 inch asphalt tile with 6 inch base. Finish, light tan marbelized field with chocolate brown border and base.

WINDOWS: Custom built aluminum double-hung, 9½ feet high. Windows on south, east and west sides have upper half glazed with translucent glare reducing glass.

INTERIOR WALL FINISHES: Painted plaster.

CEILINGS: Heights, 12½ feet. Acoustical plaster in all rooms with high noise level.

STAIRS (3): Two are fire stairs; a fourth stair will be added if second story is added above west wing.

DOORS: Flush slab construction.

LIGHTING: Fluorescent continuous strip units attached directly to ceiling.

COLORS: All walls and ceilings, soft pearl. Corridors, warm beige; stair well walls, warm beige.

COST:

General construction	$273,450.00
Electrical	29,867.00
Plumbing and heating	44,786.00
Shades and shadow boxes	3,722.50
Auditorium seats	5,322.20
	$357,147.70

Cost of building, $8.02 per square foot.

The College Professor and the FIFTH AMENDMENT

T. E. BLACKWELL
Vice Chancellor and Treasurer
Washington University, St. Louis

ONE OF THE MOST CRITICAL PROBlems confronting college administrators and the members of their governing boards today is the formulation of institutional policy with reference to the college professor who, in the name of academic freedom, invokes the protection of the Fifth Amendment when questioned by a congressional committee as to his Communistic affiliations. This amendment, a fundamental bulwark of the Bill of Rights of our federal Constitution, provides, in part, that no person "shall be compelled, in any criminal case, to be a witness against himself."

The origin of this protection of the individual against self-incrimination has been traced as far back as the Thirteenth Century in English history. It grew out of a natural repugnance against requiring people to provide evidence against themselves or to inform on others. The ecclesiastical courts of that period, seeking to uncover heresy and other violations of church law, frequently compelled unwilling witnesses to answer questions about the intimate affairs of their friends and others. In 1252, the King of England directed a mandate to the Bishop of Lincoln, warning him that he had received complaints that the bishop and his officials were persecuting the people by requiring them to give testimony about the private sins of others.

GET RECOGNITION

Early in the Seventeenth Century, the Puritans were under heavy pressure from the church courts. Those who remained in England led the movement that resulted in the recognition, by the common law courts, of the privilege against self-incrimination.[1]

Those who came to America knew, from bitter experience, the importance of such protection. Consequently, the first Bill of Rights, drafted in 1776 after the opening of the Revolutionary War as an integral part of the Virginia state constitution, included a guarantee against self-incrimination.

Although the Fifth Amendment, as incorporated in our federal Constitution, refers only to criminal cases, the courts have construed this to embrace any type of official proceedings, including those of congressional committees.[2] The power of committees of Congress to compel unwilling witnesses to testify was not granted by our federal Constitution. Indeed, no reference of any kind to the investigative power of Congress can be found in that document, yet its existence has never been questioned by the courts. Long before the federal government was established, the English Parliament and the legislatures of the original colonies had exercised this inherent power of a legislative body to obtain the facts relative to given situations before attempting to legislate with reference thereto.[3]

One of the earliest cases to come before the federal courts of the United States on the constitutional right of a witness to refuse to give testimony that might tend to incriminate him was that of the famed treason trial of Aaron Burr in 1807.[4] Burr was found guilty, but at the trial counsel for the government, confronted by a witness who invoked the Fifth Amendment, contended that no witness could refuse to testify unless the answer, unconnected with other testimony, would be sufficient to convict him of crime. Chief Justice Marshall, in rejecting this contention, declared that the acceptance of such a view would render the amendment "almost perfectly worthless," and went on to say, in part:

"Many links frequently compose that chain of testimony which is necessary to convict any individual of a crime. It appears to the court to be the true sense of the rules, that no witness is compellable to furnish any one of them against himself."

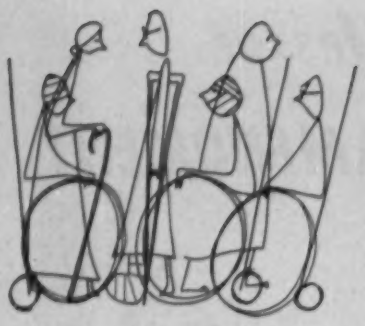
In 1857, Congress found it necessary to investigate charges that some of its members were selling their votes on important pending legislation. A newspaper correspondent, on the witness stand before the special congressional committee appointed to conduct this investigation, refused to disclose the names of the members of the House who had allegedly offered to sell their votes through him and invoked the protection of the Fifth Amendment.[5] Thus thwarted, Congress attempted to loosen his tongue by enacting a statute[6] purporting to grant immunity from prosecution for "any fact or act" thus related. The grant of immunity was so broad that congressional committees found themselves overwhelmed by a flood of grafters and crooks, anxious to testify before them and thus obtain complete and permanent immunity from federal prosecution for acts thereby disclosed.

AMEND LAW

By 1862, Congress was compelled to amend the 1857 law, so as to permit prosecution as long as the incriminating testimony revealed during the congressional hearing was excluded.[7] This revision of the law ended the basement bargain day rush of crooks to the witness chairs, but the immunity now granted was so restricted in its protection to witnesses that the courts have refused to uphold it. However, Congress has never repealed or revised the statute of 1862, but in recent years there have been many proposals for new legislation on the subject.

(To Be Concluded Next Month)

[1] 8 Wigmore: Evidence, Para. 2250 (3d Ed. 1940).
[2] U.S. *v.* Bryan 339 U.S. 323 (1950).
[3] Landis: Congressional Powers of Investigation 40 Harv. L. Rev. 153 (1946).
[4] U.S. *v.* Burr, 25 Fed. Cases 38.
[5] Eberling: Congressional Investigations 303 (1928).
[6] 11 Stat. 155 (1857).
[7] 12 Stat. 333 (1862).



Keep employes out of the hospital's emergency department by setting up a safety program.

HAVE A KITCHEN SAFETY PROGRAM

and make it pay

HILDA WATSON
Hotel and Restaurant Department
City College of San Francisco

As a member of the California division of the Industrial Safety Conference this past year, I was in for a shock as well as embarrassment and chagrin to learn the facts about our accident records. Eating and drinking places, along with hospitals, hotels and lodgings, were in the upper five industries as far as the disabling injuries go.

How many people stop to analyze why employe liability insurance is so high? Several years ago my personal accident and health insurance premium was virtually doubled when it was learned that part of my time was spent in kitchens. It was startling, but I accepted it, paid it, and did nothing but grumble.

Let us study the report on eating and drinking places from one safety conference. How many of these accidents were easily avoidable if a simple safety program had been in practice? We find the causes ran as follows:

From:	*No.*
Working surfaces	115
Chemicals, hot substances, etc.	79
Containers	45
Hand tools	32
Machines	30
Vehicles	5
Ladders	5
Total (probably avoidable)	311

Add to this total another 164 accidents called "miscellaneous" and not reported. It points up the necessity to study the cause, not complain about the cost.

We must accept the fact, also, that the insurance is only the initial expense; each accident costs much more than the mere insurance premium.

Who is guilty if accident insurance premiums are high? This question has been asked and answered in the following letter:

" 'There is a wet spot on a kitchen floor in an area over which employes travel. A waiter, with loaded tray, slips and falls and fractures his arm; the dishes are broken, and the food destroyed. The kitchen is in an uproar.

" 'Was the waiter careless, or was it the fault of the management that the person who was in charge did not see the spot and have it cleaned up?'

"This is an example illustrating why workmen's compensation insurance premiums are high. Remember, *you* are the one who pays for your accidents and not your insurance carrier. As the accidents increase in number, the insurance premiums also increase proportionately. *You* pay for these accidents, not today, but next year and for many years thereafter—long after the accident is forgotten.

" 'This accident was allowed to happen because someone at the top, delegated with authority, did not use proper judgment or supervision in directing the work of those under him. These conditions exist in so many hotels that an immediate study is necessary to correct the situation. *Alert supervision* is the key to safe operating practices.' "

Each operation should set up and follow a safety program. The person in charge should walk through the kitchen with an eye for accident hazards. All accidents that occurred during the last six months should be analyzed. Stop accepting them as the result of carelessness or as unavoidable.

Try a new approach in establishing a better safety record. Appeal to the human element rather than post a hasty array of rules that no one will

Hold an executive conference to cut down on kitchen accidents.

Union League Club
Chicago, Ill.

Superb!

Worthy of such accolade from the most exacting gourmet is this truly royal buffet. This type of service becomes more popular every year—a popularity truly merited. The unequalled variety of Sexton canned sea food has earned for it widespread acceptance as worthy of the finest service, of this or any other type. In Sexton's Indianapolis Kitchens, the Sexton Chef creates many dishes that, served warm, add much to buffet service. Ask your Sexton man about these.

JOHN SEXTON & CO., CHICAGO, 1954

long follow. Appeal to the ego of employes. It will help immensely in determining safe work practices. This in turn strengthens employer-employe relations.

Use self-preservation in your safety education program. No one really wants to have his fellow-workers injured, nor does he want to get hurt himself.

Have a good preemployment discussion as well as training for new employes. Let them know that safety is a prerequisite to their jobs. Show the *safe* way to do the job. Be sure the new employe really knows what is expected of him and how it is to be done.

Many times an employe is put on a job with no recognition of his fears and tensions, and he approaches the work with little—if any—introduction to it. Can we truthfully, then, blame him for an accident? Explain carefully the safety rules and regulations, making sure the employe knows they have been prepared for his protection, as well as the protection of those we serve. If *safety first* becomes a first impression, it is a lasting impression.

When everyone consciously and subconsciously observes safety precautions as a team, then you no longer need worry about the high cost of liability insurance premiums. Yours will be lower; many other expenses will lower proportionately as everyone on the job will be doing his job as only a satisfied skilled employe can, a member of a winning team.

Develop an atmosphere or social climate that encourages maximum useful output by all members of the organization. A recent food executive conference lists nine management functions to acquire this.

Planning

Determine policy; make intelligent decisions

Set goals and standards. (Job analysis and personnel standards of output). It's interesting to note the Hilton chain emphasis on:

Number of meals produced per employe

Breakage per employe

Sales per employe

Dishes washed per employe

Meals served per employe

Accidents per employe

Review personnel performance. (Daily, monthly and annual reports have proved most successful in cutting down accidents for such firms as Yellow Cab Co.) Combine review with training and consultation. Keep review objective at all times. This develops confidence in the employe—to know he performs well.

Training—the basis of all successful operations

Motivate personnel, especially middle management; provide leadership, enthusiasm and planning

Organize and coordinate. (Definition of organizing: A process of assembling ideas, men and equipment for effective use.) Organization depends on planning, is guided by policy.

Counseling

Building good public and guest relations. Some items in the list are overlapping, but they served to clarify thinking and to give an outline or check list for the safety program.

There are available many sources of aids, ideas and safety training programs. The division of industrial safety in each state can furnish excellent help, as well as sources of material. Many insurance companies have posters, movies and other material useful in a program.

The Hotel Association of New York City has done an outstanding job through its accident reduction department. California's department of industrial relations, division of industrial safety, with offices in San Francisco and Los Angeles, has pioneered. Its bulletin No. 110, "Tips for Hotel Workers," is very good to have for each new employe.

Safe practice is simple. We could cut liability insurances if each food service worker would follow simple precautions on these eight points:

1. Clean up spilled food.
2. Before turning on or lighting a gas oven burner, leave the oven door open for several moments.
3. Make all cutting strokes with knives away from the body, and when knives are not in use, arrange in racks, drawers or boxes.
4. Never run or move hastily in a busy kitchen.
5. Get first aid for every cut, scratch or burn.
6. Be alert to avoid hot steam or hot grease. Shut off the steam before opening a high pressure steamer.
7. Watch storeroom shelves. Always store *heavy* items on *low* shelves. Be sure storeroom employes have and use adequate ladders to reach the top shelves—not just any case or chair.
8. Learn to lift correctly.

The best and only way to cut the cost of liability insurance is to have your own safety program. Make it pay.

Clean up that wet spot on the kitchen floor before another catastrophe occurs.

Here's what A-V experts say about the Pageant's exclusive pre-lubrication feature

"Over-oiling is one of the chief hazards in projector maintenance. It results in costly, tedious cleaning jobs and often damages film. Pageant users never have any such trouble because their projectors are *permanently* lubricated—there's never a need for service caused by over- or under-oiling."

A. R. Mickelson, *Director*
Audio-Visual Dept.
Epko Film Service
Fargo, North Dakota

"In spite of all we tell customers about how to oil projectors properly, too many of them never seem to do it right or at all. So it's a welcome relief to be able to offer Kodak's lifetime-lubricated Pageant."

Paul M. King
Krum's Audio-Visual
Battle Creek, Michigan

"After 18 years' experience serving educational institutions with numerous service headaches resulting from under- or over-lubrication of motion-picture projectors, I, as well as my customers, welcome the Kodascope Pageant Projector's permanent pre-lubrication feature as an important contribution toward trouble-free operation."

R. G. Smith, Jr.
Audio-Visual Center
Augusta, Georgia

"No wonder the Kodascope Pageant Sound Projector is gaining popularity so fast. Its exclusive pre-lubrication feature completely eliminates the possibility of under- or over-oiling. For this reason the Pageant is ideal for training rooms that are used by a number of instructors, where servicing the projector is always left to the 'other fellow.'"

Wilson Gill
Wilson Gill, Inc.
Washington, D. C.

Super-brilliant new Pageant can banish *your* room-darkening problems

When unwanted light gets past drawn blinds or shades, movies wash out and lose their sparkle. Viewers strain, lose interest. But even under adverse conditions, the Kodascope Pageant Sound Projector, Model AV-071, screens pictures brilliantly. Its Plus-40 Shutter provides *40% more light* than standard shutters . . . gives crisp, super-bright pictures anywhere, any time.

Compact, Powerful

The AV-071 combines projector and well-baffled 8-inch speaker in a single, easy-to-carry case. Its true-rated 7-watt amplifier delivers plenty of power for normal sound needs. And a simple adjustment of the *exclusive sound-focus control* gives optimum sound from any film—regardless of the position or condition of the sound track.

A Pageant for Every 16mm. Need

The AV-071 is just one of six outstanding Pageant models. Here's how each of the other models is designed to help you solve a particular problem . . .

Model 1 is the economical top choice for all-around sound and silent showings. Has all the superior features of the AV-071, except the Plus-40 Shutter.

Model AV-151 has an extra-powerful 15-watt amplifier and matching 12-inch speaker to overcome sound difficulties in auditorium-size rooms.

Model AV-151-E combines added sound power with the extra brilliance of Kodak's remarkable Plus-40 Shutter.

Model AV-151-S has a powerful 15-watt amplifier and compact 8-inch speaker built into a single case.

Model AV-151-SE has a 15-watt amplifier for added power, the Plus-40 Shutter for extra brilliance, and an 8-inch speaker for compact portability.

Pageant prices start at a remarkably low $375 (subject to change without notice).

How your dealer can help you

Whether it's special lighting problems or difficult acoustical conditions you face, your Kodak Audio-Visual Dealer will be glad to help you select the Kodascope Pageant tailored to fit *your* movie-showing needs. See him soon for a free demonstration—or fill out the handy coupon below.

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Please send name of nearest Kodak Audio-Visual Dealer and information on:
Kodascope Pageant Sound Projectors, Model 1 ☐ Model AV-071 ☐
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TITLE_____
ORGANIZATION_____
STREET_____
CITY_____ STATE_____
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Kodak

NEWS

Littlefield Heads Eastern Group . . . Fraternity Head Sues State University of New York . . . College Given Mining Town . . . Student Editors at Georgia Scored for Liberal Views . . . Penn State Now University . . . Beloit Has Fire

Fraternity Head Brings Suit Against S.U.N.Y.

UTICA, N.Y.—The president of Sigma Tau Gamma recently asked the federal court for an injunction restraining the State University of New York from banning national fraternities and sororities from units of the state university.

The petition named the state university, its president, William S. Carlson of Albany, and its trustees as defendants. The petition described the October 8 action of the trustees in banning the national social organizations as "discriminatory and capricious" and alleged that the action was in violation of the United States Constitution and the Fourteenth Amendment which provides for due process of law.

The petitioner is Earl Webb, national president of Sigma Tau Gamma and a resident of St. Joseph, Mo. Attorney for the petitioner is Clifford H. Searl, former justice of the New York State supreme court.

Blasts Student Editors for Nonsegregation Views

ATHENS, GA.—Roy C. Harris, a long-time supporter of Gov. Herman Talmadge and considered one of the state's foremost political powers, recently severely criticized student editors of the University of Georgia's weekly newspaper for what he called a liberal view on racial segregation.

At a recent meeting of the board of regents in Atlanta, Mr. Harris, a board member, told William Shipp, managing editor of the student newspaper, that state funds amounting to about one-third of the school paper's $15,000 annual budget would be cut off if there were more editorials at variance with state segregation laws.

In a subsequent editorial of Mr. Harris' newspaper, which he publishes in Augusta, Ga., considerable space was devoted to a name calling blast in which the involved students were referred to as "a little handful of sissy, misguided squirts."

College Given Mining Town as a Gift

ELKINS, W.VA.—Davis and Elkins College recently received an unusual Christmas present when the entire town of near-by Morton with a population of 500 inhabitants was turned over to the college as a gift by the West Virginia Coal and Coke Corporation.

The property includes 70 acres of surface land and 113 houses recently leased to the Morton Coal Company. Under the grant Davis and Elkins College becomes the lessor, putting the institution in line for what officials call a "substantial" income.

Fall College Enrollment Totals 2,148,284

WASHINGTON, D.C.—"College and university enrollment in the United States has shown an upturn for the second consecutive year," S. M. Brownell, commissioner of education, Department of Health, Education and Welfare, announced recently.

"Enrollment figures reported to the Office of Education by the nation's 1871 institutions of higher education, including those in Alaska, Guam, Hawaii, Puerto Rico, and the District of Columbia, indicate a total enrollment of 2,250,701. The 1953 fall enrollment was 2,148,284," according to Dr. Brownell.

"In addition to the total enrollment increase of 4.8 per cent this year over last," Commissioner Brownell said, "the enrollment reports reveal other significant facts. Among them are a

(Continued on Page 54)

John Littlefield Heads Eastern C.U.B.O. Group

WASHINGTON, D.C.—John W. S. Littlefield, treasurer of Colgate University, was elected president of the Eastern Association of College and University Business Officers at the conclusion of a record attendance of 320 delegates at the recent annual convention of the association held at the Shoreham Hotel in Washington, D.C. Those elected to serve on the executive committee with Mr. Littlefield included W. R. Hendershot, bursar of New York University, vice president, and Irwin K. French, business manager of Wellesley College, as secretary-treasurer of the association.

Members of the executive committee include Elizabeth J. Carbon, secretary and business manager of the Cooper Union for the Advancement of Science and Art; G. F. McIntire, bursar, Bowdoin College; Marcus Robbins, controller, Yale University; Edward K. Cratsley, vice president, Swarthmore College, and W. P. Davis, treasurer, Oberlin College. F. Morris Cochran, outgoing immediate past president of the Eastern Association and vice president and business manager of Brown University, was named to represent the association as its director of the National Federation with his term beginning next July 1.

The executive committee of the association approved plans of the National Federation for a national assembly in 1955 with the understanding that another such national meeting would not be held within a five-year period from the date of the 1955 assembly and that the assembly would not be considered as a convention or be conducted as a portion of any regional association convention.

Sessions of the Washington convention were devoted to a discussion of endowment problems, and a report on

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One of the world's great hotels!

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FAMOUS NAMES IN COMMERCIAL COOKING FROM COAST TO COAST DEPEND ON GARLAND!

Independent surveys prove again and again that Garland Commercial Cooking Equipment has more installations in leading hotels, restaurants, clubs, schools, and institutions than any other make! The reason is simply that men who know, *prefer* Garland quality, durability, dependability, and economy. If you have a commercial cooking problem, see your nearest food service equipment dealer now . . . and get the GARLAND story.

Famous International Chef, Hilario Herrero, of the Sheraton-Cadillac, says: "We prepare over 4,000 meals every day. Only Garland Cooking Equipment can deliver the kind of top-grade performance and flexibility we require!

The battery formation illustrated includes: Spectro-Heat Hot Top; Open Top; Unitherm Fry Top; Deep Fat Fryer; and Side Fired Broiler. Units available in standard black-Japan or Stainless Steel finishes.

Look for the 45-29 Club pin . . . it's the mark of an expert!

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Broiler-Griddles • Roasting Ovens • Griddles • Counter Griddles • Dinette Ranges
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Have you any HOT FOODS to move today!

PORTABLE
AERVOID
REG. U.S. PAT. OFF.
Vacuum Insulated
HOT FOOD, SOUP and COFFEE CARRIERS
BEGIN WHERE COOKING KETTLES AND COFFEE URNS LEAVE OFF

When you have hot foods, hot soup, hot coffee to be serviced a distance from your kitchens . . . THAT'S WHERE PORTABLE AerVoID VACUUM INSULATED HOT FOOD AND LIQUID CARRIERS COME IN.

AerVoIDs begin where cooking kettles and coffee urns, leave off. They provide a means by which the output of stationary cooking equipment can readily be transported and serviced at points distant from your kitchens . . . expediting service, saving time, money, labor.

AerVoIDs cost but a fraction of the cost of urns, steam tables, cooking kettles. Made of stainless steel, sanitary, high vacuum insulation (exclusive with AerVoIDs) that insures thermal efficiency to keep foods hot for servicing even miles from a central kitchen and with high retention of all the essential food elements and flavors as demonstrated by laboratory tests.

Not being anchored to one location, portable AerVoIDs open up immense new possibilities in expediting mass feeding. The only "complete line" of portable hot food servicing equipment on the market . . . sizes and types to feed thousands or just a few.

Experienced mass feeding consultants to help you without cost.

Write for illustrated price list "D". Compare. See how much less portable AerVoIDs cost . . . how much you can save.

VACUUM CAN COMPANY
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CHICAGO 12, ILLINOIS

NEWS

a management survey and evaluation by Finla Crawford, vice chancellor of Syracuse University. Also featured on the program was a presentation on accounting reports for budgetary control by Howard N. Smith, controller of Harvard University, and a presentation by tax authorities on various interpretations of federal taxes.

Two sessions of the convention were devoted to an informal question period. Serving as specialists at one session, a panel of experts included Miss Carbon, William N. Davis, manager of student residence and dining halls, Brown University; Nelson Jones, director, memorial union, University of Maine, and John H. Kreinheder, the superintendent of buildings and grounds, Wellesley College. Questions asked concerned such matters as telephone operation policy, campus post offices, residential hall housekeeping, inventory control, and student tuition and fee refunds.

The 1954 convention will again be held at the Hotel Shoreham in Washington, December 5 to 7.

Fall College Enrollment

(Continued From Page 52)

rise in the number of new students of 6.5 per cent and an increase of 3.3 per cent in the number of men students, as compared with a 7.5 per cent increase in the total number of women enrolled."

Basic factors underlying the increasingly large number of young people enrolled in American colleges and universities today, the U.S. commissioner of education said, are the all-time peak of graduates from the nation's high schools in 1953, educational benefits for veterans, and efforts to interest high school students in continuing their education beyond the secondary school.

The college-university report is released annually by the Office of Education. Men outnumbered women 1,432,474 to 818,227, with the number of new men students this fall totaling 344,844, and new women students 226,689, according to the report.

All types of institutions of higher education, with the exception of theological schools and other independent professional schools, registered larger enrollments this year, the increases ranging from 3.8 per cent for universities to 13.1 per cent for teachers colleges. There was a decline in the number of students in theological schools, and in independently organized professional schools.

The trend toward an increased proportion of women students in college continues, but the percentage of women is still below the 40 per cent ratio that prevailed in the years immediately preceding World War II. Approximately 36.3 per cent of students last fall were women, as compared with 35.4 per cent in 1952.

For the nation as a whole, 38 states report more students in college this year than last. Greatest rises are reported in Delaware (51.7 per cent); Arizona (16.9 per cent), and South Dakota (16.2 per cent). Other states with a rise of 10 per cent or more in numbers of students are California, Michigan, Mississippi, New Jersey, Rhode Island, and Wisconsin.

Increases in first-time student enrollment are reported in 35 states. Greatest increases are in Nevada (25.7 per cent), Pennsylvania (18.0 per cent), Georgia (17.0 per cent). Other states with a 10 per cent or more increase in enrollment of first-time students are Arizona, California, Kansas, Michigan, Montana, North Dakota, Texas and Wyoming.

Enrollments are highest in the following institutions: New York University, 38,912; University of California, all campuses, 33,382; City College of New York, 28,482; State University of New York, all campuses, 27,862; Columbia University, 24,870; University of Illinois, 21,164; University of Michigan, 19,800; Ohio State University, 19,486; University of Minnesota, 19,074, and Northwestern University, 17,977.

Fire Destroys Chapel on Beloit Campus

BELOIT, WIS.—Beloit College lost its chapel December 12 as a result of a disastrous fire that began in the choir loft of the 61 year old stone structure and spread rapidly throughout the building.

During the height of the fire the chapel chimes started ringing. Firemen stated that they were electrically operated and the heat apparently had set them off.

Replacement of the chapel will require an expenditure of between $500,000 and $1,000,000, it is said.

Another outstanding installation of *Hamilton* laboratory equipment at BUTLER UNIVERSITY Indianapolis, Indiana

When the chips are down, and generalities about quality just aren't enough, we find it satisfying to point to noteworthy Hamilton laboratory installations like this.

At Butler University, as in many other leading colleges and universities across the country, Hamilton laboratory equipment is the choice.

We can think of no more persuasive testimonial than this, and we feel it merits consideration in your laboratory plans. We will be delighted to tell you of other noteworthy Hamilton installations and of the extra values which prompted the selection of Hamilton in these instances. Write now to—

Hamilton Manufacturing Company

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NEWS

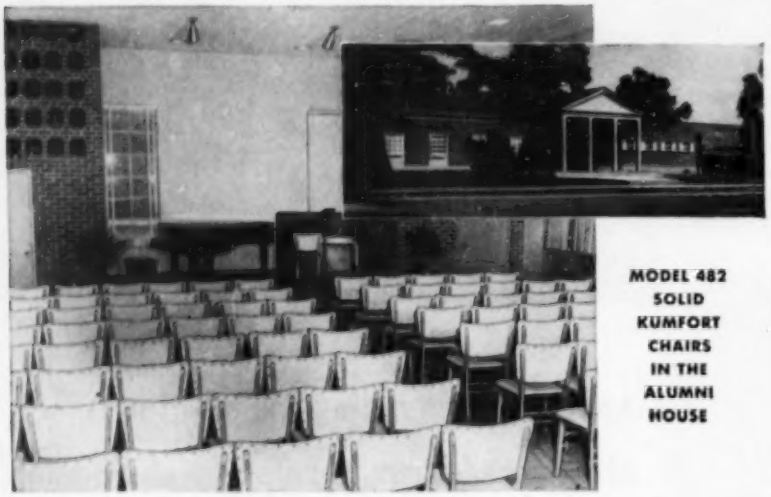
Penn State College Now University

STATE COLLEGE, PA.—In keeping with the change of name from the Pennsylvania State College to the Pennsylvania State University, which became effective November 14, the nine undergraduate schools of the university have been designated colleges.

President Milton S. Eisenhower, in announcing the changes recently, pointed out that the graduate school will for the present retain its title as a school. Retaining this name does not indicate that the graduate school is on an inferior level to the undergraduate colleges, Dr. Eisenhower explained. The name was retained because it is the name used to designate essentially all graduate units of American universities. He also explained that the present action will not prevent a later change in name of the graduate school if a change is considered desirable.

In changing the names of two of the undergraduate schools, the trustees approved the title of college of business administration for the new school of business, and college of engineering and architecture for the school of engineering.

Other undergraduate schools designated as colleges are: agriculture, chemistry and physics; education; home economics; liberal arts; mineral industries, and physical education and athletics.



MODEL 482 SOLID KUMFORT CHAIRS IN THE ALUMNI HOUSE

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MODEL 482 Magnesium Solid Kumfort Chairs That Fold were selected for the Alumni House at the University of Mississippi because of their beauty, comfort and the ease with which they can be moved from room to room.

Diecast Magnesium frames and the famous Rastetter hinge and brace provide the strength to withstand constant hard use . . . even where use is abuse. Write for catalog of Solid Kumfort Chairs That Fold, in Wood and Magnesium.

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600,000 Veterans Enrolled in Schools

WASHINGTON, D.C.—According to figures recently released by the Veterans Administration, approximately 600,000 veterans were enrolled last fall in American schools and training establishments under provisions of the G.I. bill.

The total, according to the V.A., includes a record breaking 217,000 veterans taking training under the Korean G.I. bill and 346,000 World War II veterans enrolled under the original G.I. bill.

Of the rest, 18,500 are disabled veterans of World War II studying under Public Law 16, and 7500 veteran-trainees disabled in service since fighting started in Korea. According to available figures released by the V.A., the current number of Korean veteran trainees has almost doubled the previous peak of the new training program, which was reached in April 1953 with 131,000 veterans.

College training has been the most popular choice among Korean veterans. Of the total, 54 per cent, or 118,000 veterans, are enrolled in institutions of higher education.

Books on Advertising Go to 22 Illinois Colleges

CHICAGO.—The 22 colleges participating as members of the Associated Colleges of Illinois, Inc., were recent recipients of a "Library of Advertising" donated by the Women's Advertising Club of Chicago, according to a recent announcement by Edna M. Johnson, president.

It has been an annual custom of the Women's Advertising Club of Chicago to select a project for consideration by its membership, and this year's committee selected the 22 colleges of Illinois as its major project.

THOUSANDS OF FEET

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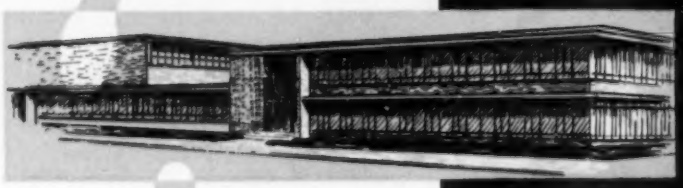

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LETTERS

Accounting Procedure

Sirs:

Since 1939 the committee on accounting procedure of the American Institute of Accountants has issued accounting research bulletins, the applicability of which to colleges and universities has, until recently, been in doubt; in instances this has been a matter of concern to the business officers of colleges and universities as well as to their independent public accountants. At no time was any general comment made as to the applicability of the bulletins other than to state that they should not be regarded as applicable to investment trusts.

Recently there was issued by the American Institute of Accountants' committee on accounting procedure a Restatement and Revision of Accounting Research Bulletins (Bulletin No. 43), in which a new statement of applicability appears in the introduction which indicates that, in general, the opinions of the institute's committee on accounting procedure should be regarded as applicable primarily to business enterprises organized for profit. The statement reads as follows:

"The principal objective of the committee has been to narrow areas of difference and inconsistency in accounting practices, and to further the development and recognition of generally accepted accounting principles, through the issuance of opinions and recommendations that would serve as criteria for determining the suitability of accounting practices reflected in financial statements and representations of commercial and industrial companies. In this endeavor, the committee has considered the interpretation and application of such principles as appeared to it to be pertinent to particular accounting problems. The committee has not directed its attention to accounting problems or procedures of religious, charitable, scientific, educational and similar nonprofit institutions, municipalities, professional firms, and the like. Accordingly, except where there is a specific statement of a different intent by the committee, its opinions and recommendations are directed primarily to business enterprises organized for profit."

The foregoing statement of applicability should clarify any misunderstanding or confusion with respect to the matter of the applicability of the accounting research bulletins to colleges and universities and other nonprofit organizations.

A review of a number of published reports of colleges and universities indicates that some accountants have refrained from the use of the expression "generally accepted accounting principles" in their certificates on colleges and universities. It is hoped that if the reason is the fact that there has been some uncertainty in the applicability of the accounting research bulletins to colleges and universities the paragraph included in the restatement and revision of these bulletins commented upon will clarify this point sufficiently so that more accountants will feel free to use the expression "generally accepted accounting principles" in their reports on examinations of the accounts of educational institutions.—RALPH S. JONES, *chairman, American Institute of Accountants' committee on college and university accounting.*

There is new safety in walking when floors are finished with Ves-Cote . . . because Ves-Cote contains a new and proven anti-slip agent, DuPont's "Ludox"* colloidal silica. These minute particles of "Ludox"* create excellent sole and heel traction—offer effective braking action for each step.

In addition to safety, Ves-Cote dries to a high lustre; is long-wearing; water resistant; easy to apply and dries quickly.

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Proper washroom planning reduces corridor traffic

The *time* to solve the problem of corridor traffic is when your new school building is in the planning stage. The *place* to solve it is on your architect's drawing board. And nothing can contribute more to its solution than proper placement of toilet and washroom facilities.

For example, ask your architect to explore the traffic-reducing effects of more and smaller washrooms instead of just a few large ones. And when discussing equipment for these rooms, *let him know your preference for Crane.*

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Johns-Manville Fibretone Acoustical Ceilings reduce disturbing noise . . . readily installed, they provide the quiet comfort so necessary for better, more efficient work.

Fibretone Panels are easily installed over new or existing construction.

BECAUSE DISTRACTING NOISE can lead to confusion and careless mistakes in schoolwork, practically all new schools include acoustical ceilings for noise absorption. However, even if your school was constructed before sound control became an established science, you can have Johns-Manville Fibretone Acoustical Panels easily and quickly installed over your present ceilings with little interruption to regular routine.

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NAMES

Louis L. Brega

Louis L. Brega, formerly senior associate of the firm of Cresap, McCormick & Paget, consulting management engineers in New York City, has been named general manager of Vassar College, Poughkeepsie, N.Y., according to a recent announcement by **Sarah Gibson Blanding,** president of the college. Mr. Brega, who took up his new duties on January 1, succeeded the late **Keene Richards.**

Dr. Kenneth R. Erfft, business manager of Furman University, Greenville, S.C., has been named associate controller at Pennsylvania State University. His appointment becomes effective

(Continued on page 62)

DIRECTORY OF ASSOCIATIONS

National Federation of College and University Business Officer Associations

President: Irwin K. French, Wellesley College; vice president: Gerald D. Henderson, Vanderbilt University; secretary-treasurer: Nelson A. Wahlstrom, University of Washington.

Association of College and University Business Officers

American Association

President: J. B. Cephas, Virginia State College; secretary: L. H. Foster Jr., Tuskegee Institute.

Convention: May 2-4, Lincoln University, Jefferson City, Mo.

Central Association

President: Jacob Taylor, Ohio State University; secretary-treasurer: T. N. McClure, Knox College.

Convention: April 25-27, Oklahoma A.&M. College, Stillwater.

Eastern Association

President: John W. S. Littlefield, Colgate University; secretary-treasurer: Irwin K. French, Wellesley College.

Convention: Dec. 5-7, Shoreham Hotel, Washington, D.C.

Southern Association

President: J. H. Dewberry, University System of Georgia; secretary-treasurer: Gerald D. Henderson, Vanderbilt University.

Convention: April 28-May 1, Raleigh, N.C.

Western Association

President: George W. Green, California Institute of Technology; secretary: Duncan McFadden, Stanford University.

Convention: May 9-11, Rickey's Studio Inn, Palo Alto, Calif.

Association of Physical Plant Administrators of Universities and Colleges

President: Sam Brewster, Alabama Polytechnic Institute; secretary-treasurer: A. F. Gallistel, University of Wisconsin.

Convention: May 3-5, California Institute of Technology, Pasadena.

Association of College Unions

President: Louis Day Jr., University of Pennsylvania; secretary-treasurer: Edgar A. Whiting, Cornell University; editor of publication: Porter Butts, University of Wisconsin.

Convention: April 25-28, Edgewater Beach Hotel, Chicago.

National Association of Educational Buyers

President: Forrest Abbott, Barnard College; executive secretary: Bert C. Ahrens, 1461 Franklin Ave., Garden City, N.Y.

Convention: May 5-7, Huntington Hotel, Pasadena, Calif.

American College Public Relations Association

President: Mrs. Vota Lee Smith, Marshall College, Huntington, W.Va.; executive secretary: Marvin W. Topping, 726 Jackson Place, N.W., Washington 6, D.C.

Convention: June 21-24, Hotel Roosevelt, New York City.

National Association of College Stores

President: R. C. Avery, Cornell Campus Store, Ithaca, N.Y.; executive secretary: Russell Reynolds, Box 58, 33 West College Street, Oberlin, Ohio.

Convention: April 20-23, Sherman Hotel, Chicago.

College and University Personnel Association

President: Max W. Sappenfield, University of Indiana Medical Center, Indianapolis; secretary-treasurer: Clara Stimson, University of Rochester; executive secretary: Donald E. Dickason, University of Illinois. Permanent headquarters, 809 S. Wright St., Champaign, Ill.

Convention: August 1954, University of California and California Institute of Technology.

National Association of College and University Housing Officers

President: J. C. Schilleter, Iowa State College; vice president: M. R. Shaw, Cornell University; secretary-treasurer: Ruth N. Donnelly, University of California, Berkeley.

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Kenneth R. Erfft

Lawrence E. Dennis

February 1, according to an announcement by **Dr. Milton S. Eisenhower,** president of Pennsylvania State. In another announcement, Dr. Eisenhower named **Lawrence E. Dennis,** formerly special assistant to the U.S. Commissioner of Education, as administrative assistant to the president of the university. Mr. Dennis will fill a vacancy created last September when **Richard C. Maloney** resigned to become assistant dean in the college of the liberal arts there.

Otto V. Guenther has been appointed president of the Troy Technical Institute, the community college of Rensselaer County in New York State. The announcement was made recently by the board of trustees of the State University of New York.

Laurent Julien, accountant at the school of commerce of the Universite de Montreal, has recently been appointed manager of the union building and of the Students' Association of this Canadian university.

Dr. Wilson Compton, president of the recently organized Council for Financial Aid to Education, Inc., announces the appointment of **Eldredge Hiller** as director of public relations, **Dr. John A. Pollard** as director of research, and **Anna H. Clark** as acting secretary and assistant treasurer of the council. Mr. Hiller was formerly director of the American Round Table Forums, developed under the auspices of the Advertising Council of America to bring educators, labor leaders, and businessmen together. Dr. Pollard has recently been a staff member of a New York fund raising agency and has served as an independent consultant of college development fund programs. Miss Clark was an assistant to the director of the International Press Service in the U.S. International Information Administration in Washington.

Dr. Henry C. Miller, dean of the school of liberal and applied studies at the University of Rochester, Rochester, N.Y., has recently been made vice president for educational administration. He will supervise coordination of the university's schools and implement new programs anticipated in the forthcoming merger of the men's and women's campuses.

David L. Crawford, president of Doane College, Crete, Neb., has announced that he will retire in June. No successor has been named. He has been president of Doane since 1948. Dr. Crawford was president of the University of Hawaii from 1927 to 1941.

Donald S. Willard

Donald S. Willard, controller of Mount Holyoke College, South Hadley, Mass., since November 1951, has resigned to accept the appointment of assistant secretary of the Teachers Insurance and Annuity Association. Mr. Willard joined the Mount Holyoke College business staff as purchasing agent in February 1947 and was named assistant controller in 1948.

Joe Dellere has left his post as purchasing agent at the University of Omaha to join the Mutual Benefit Health and Accident Company.

John E. Forsberg, chief accountant at the University of Omaha, has been named assistant director of business at El Camino College, Los Angeles.

The **Very Rev. Francis Xavier Talbot,** president of Loyola College, Baltimore, from 1947 to 1950, died recently in the rectory of Holy Trinity Church in Washington, D.C.

GIFTS AND BEQUESTS

• **Pennsylvania State College** officials report that the first alumni fund drive conducted by the institution resulted in gifts in excess of $164,885 from 6836 alumni.

• **New York University** will receive $1,952,672 as a residuary legatee of the late Dr. Albert A. Berg. The university will establish an institute for experimental physiology, surgery and pathology as a result of this bequest.

• **Columbia University's** school of journalism has received gifts totaling $32,500 from two private sources to expand its facilities for television broadcasting and to establish an annual scholarship in television news writing.

• **Marquette University** officials announced receipt of a bequest of 15 per

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LUNCHTIME RELAXATION is only *one* of the reasons why Parke, Davis & Company, prominent pharmaceutical house of Detroit, equipped its employees' cafeteria with 600 of these smart-looking, restful Goodform Aluminum Chairs.

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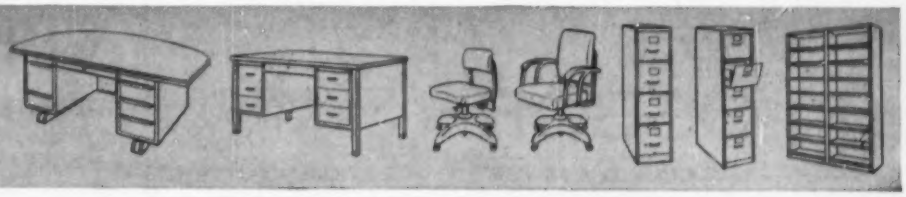

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NEWS

cent of the net estate of the late F. J. Sensenbrenner, former president of the Kimberly-Clark Corporation. The 15 per cent of the net estate was not to exceed $400,000, however, as far as the bequest to the Milwaukee institution is concerned. The inventory of the estate indicates a value of $4,394,363.

• The annual report of the Carnegie Corporation of New York revealed that $5,000,000 was given to higher education. The largest grant of $700,000 was for a five-year program intended to raise the levels of teaching and scholarship in graduate study at southern universities, including **Duke, Emory, North Carolina, Tulane, Vanderbilt.**

• **Wellesley College,** Wellesley, Mass., received $604,930 in gifts and bequests since July 1, 1952, according to a recent announcement by Dr. Margaret Clapp, president.

• **Harvard University** announced receipt of gifts amounting to $2,992,578 during the first three months of 1953. University officials reported that the total for capital was $1,408,756 and for immediate use $1,583,822.

• Ford Foundation officials announced that the second full year of the active program of the foundation made grants in 1952 amounting to $37,865,235. Of this amount, $22,065,232 (by far the largest appropriation) went to projects undertaken to advance education in America.

• **Columbia University** recently announced a grant of $280,000 from the Ford Foundation to be used for the continuation and expansion of the work of the National Manpower Council.

• The Ford Foundation recently announced grants to five American universities to survey their research programs for the scientific study of human behavior. The grants, totaling $249,500, were made to **Harvard University,** the **University of Chicago,** the **University of Michigan, Stanford University** and the **University of North Carolina.**

• **Union College,** Schenectady, N.Y., received a bequest of $1,500,000 from Frank Bailey, former president of the Title Guarantee and Trust Company of New York and college treasurer. The bulk of the late banker's estate went to his widow.

• **The Citadel—Military College of South Carolina,** Charleston, announced receipt of a gift of $750,000 from the estate of Joseph D. Aiken, a New England textile executive.

• **Dartmouth College** Alumni Fund reported that alumni contributions amounted to $671,147 during 1953. This topped last year's record contribution by $59,616. There were 17,375 donors, which was 1229 more than last year, according to Kenneth M. Henderson of Chicago, fund chairman.

• **University of Rochester** recently received a gift of $1,400,000 from the Eastman Kodak Company. The gift will be paid over a period of years, according to company executives.

• **Mount Holyoke College** officials have announced receipt of a gift of $1,000,000 from the estate of Newcomb Cleveland, an advertising executive.

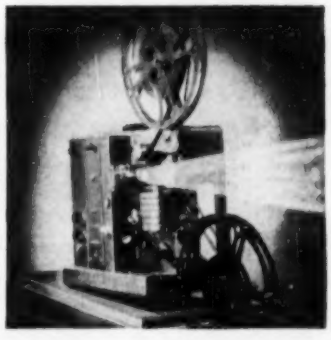
How to get better results from every film you show

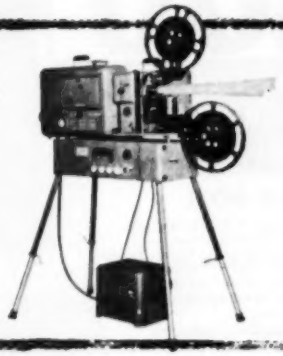
◀ Make your own sound track

With the RCA Magnetic Recorder-Projector, you make your own sound track in just a few minutes—and play it back instantly. It's the new way to cut the cost of sound films—the new way to convert your sound track to give you the advantage of an additional commentary in a foreign language—language or commentary changeable at will. Get more mileage from all your films with the RCA Magnetic Recorder-Projector.

The easy way to show films ▶

For perfect showings every time, use the RCA "400" Projector. Both Junior and Senior models feature the famous "Thread-Easy" film path—the film path that most people thread in less than 30 seconds. These dependable 16-mm sound projectors are favorites with audio-visual specialists who insist on a projector they can count on for clear, steady pictures and smooth, clean sound.





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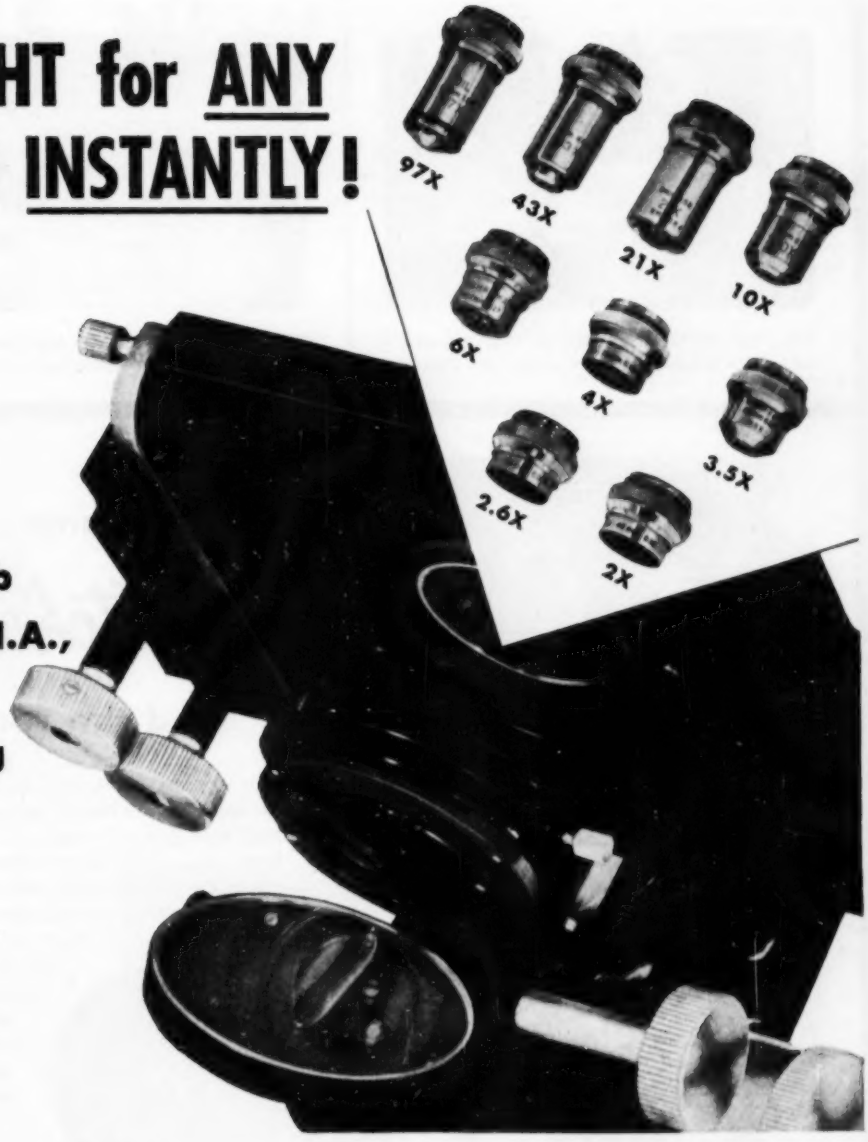

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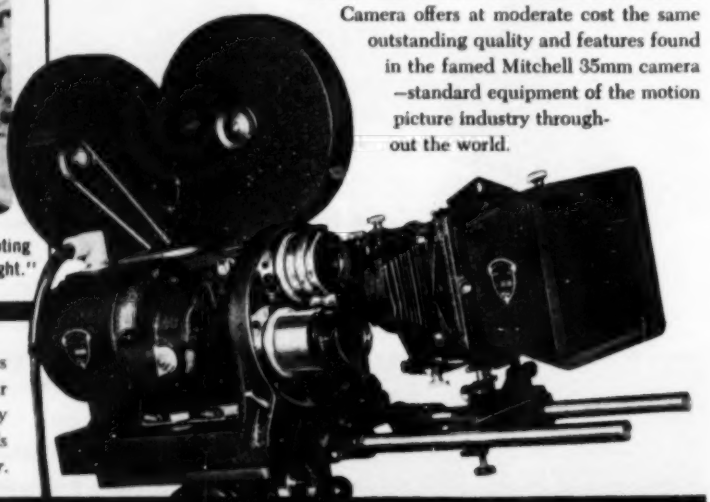
and the rest is history!

Over 30 years ago Mitchell made history with the introduction of the motion picture camera that was to set new photographic standards for a growing industry. *Today,* Mitchell 16mm cameras are being used in every field of motion picture photography... Leading colleges, universities and schools throughout this country and abroad are currently using Mitchell cameras in their programs. They have found that a Mitchell 16mm Professional Camera offers at moderate cost the same outstanding quality and features found in the famed Mitchell 35mm camera —standard equipment of the motion picture industry throughout the world.



...Today, as in the history-making years past, Mitchell cameras continue to deliver the world's finest films. That is why so many colleges, universities and schools count on Mitchell—*the 30 year pioneer.*

Mitchell Camera CORPORATION

666 West Harvard Street • Glendale 4, Calif. • Cable Address: "MITCAMCO"

85% of the professional motion pictures shown throughout the world are filmed with a Mitchell

WHAT'S NEW

January 1954

Edited by Bessie Covert

TO HELP you get more information quickly on the new products described in this section, we have provided the postage paid card opposite page 80. Circle the key numbers on the card which correspond with the numbers at the close of each descriptive item in which you are interested. COLLEGE and UNIVERSITY BUSINESS will send your requests to the manufacturers. If you wish other product information, just write us and we shall make every effort to supply it.

Microfilm Camera Handles Bulky Originals

A new microfilm camera has been developed which films single sheets, magazines, bound volumes with pages spread open, notebooks and other bulky originals without removing the pages, in all sizes up to 11 by 17 inches. Known as the Film-A-Record Model No. 4 Microfilm Camera, the machine can be operated at speeds up to 1500 exposures an hour.

A Visual Supply Indicator shows the amount of film left in the camera, while an audible signal warns when the film has been loaded improperly, when the take-up reel is full, or when the film fails to advance properly. Film is easily loaded or removed without technical training, and a foot switch controls the operation of photographing documents and advancing the correct amount of film. A colorstat permits increasing or decreasing light intensity for photographing original documents of varying color. **Remington Rand Inc., Dept. CUB, 315 Fourth Ave., New York 10. (Key No. 1)**

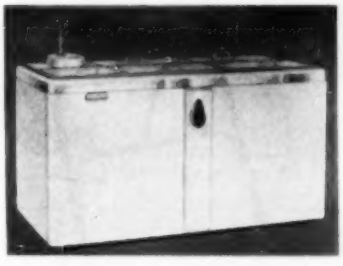
Electronic Shutoff on Light-Weight Vacuum

The MCV-205B light-weight vacuum cleaner has a redesigned five gallon tank and is now equipped with the new Multi-Clean electronic motor shutoff to prevent motor flooding, and has stabilized motor brushes for longer brush life. These features were formerly found only on the larger Multi-Clean vacuum models but are now standard equipment on the MCV-205B. **Multi-Clean Products, Inc., Dept. CUB, 2277 Ford Pkwy., St. Paul 1, Minn. (Key No. 2)**

Automatic Washer For All Sized Utensils

The new FMC Utensil Washer is designed to wash, scour and rinse all utensils from pie pans to garbage cans, including trays, ladles, pots, pans, counter shelves, table drawers and mixing machine elements. It is fabricated of stainless steel and aluminum and consists of two adjoining compartments, one for initial washing and the other for both secondary washing and clear hot water rinsing. An upper and lower high pressure revolving spray system recirculates water maintained at a constant high temperature for the actual cleaning and rinsing. Action is automatically controlled. **Food Machinery & Chemical Corp., Canning Machinery Div., Dept. CUB, Hoopeston, Ill. (Key No. 3)**

Wet or Dry Cooling Offered in Beverage Cooler



The new Beverage-Air Cafeteria Bottle Cooler can be converted by a simple turn of a control knob for wet or dry cooling. It is available in two models. CA63-SW has a capacity of 19 cases of six ounce bottles or 468 half-pints of milk. The CA48-SW provides space for 12 cases of six ounce bottles or 340 half-pints of milk.

The cabinet has a seamless, stainless steel top railing and stainless steel lids of either the sliding or the hinged type. Adjustable glides are furnished for leveling and adjusting to 32 or 33 inch counter height. It can be finished in stainless steel or colored exterior finish or in standard white baked-on enamel. Glass-filler type water faucets and coil are available as optional equipment. The units are designed primarily for school or other institutional installations. **The Punxsutawney Co., Dept. CUB, Punxsutawney, Pa. (Key No. 4)**

(Continued on page 70)

"Durapress" Parfait Added to Glass Line

The line of attractive, economical and durable glass dishes known as "Durapress" now includes a parfait. This matches the line of sherbets, sundaes and sodas available in "Durapress." The parfait has a heavy glass base, is modern in shape and has an easy-to-clean design. It is strong and durable and is low in cost. The new parfait, as the other items in this attractive glass line, makes it possible to offer more attractive food service. **Libbey Glass, Dept. CUB, Toledo 1, Ohio. (Key No. 5)**

Versatility and Utility Offered in Chair Desk

An attractive and useful chair desk has been developed by the attachment of a trapezoidal desk top to the basic Brunswick chair. A guest chair and a tablet-arm chair can also be provided from the basic chair with simple attachments. The compound-curved seat and back and the resilient back support structure make the units comfortable. Rubber-mounted floor glides add to the resiliency of this four-in-one unit.

A large work area is provided in the detachable desk top and extra elbow space is offered by the trapezoidal shape. The top is available in durable ⅛ inch plywood with a plastic facing as an optional feature. It is also available with a ¾ inch solid wood top. The Brunswick uni-structure design provides complete structural support in the frame without the use of the seat and the back as a bracing factor. The unit is attractive and a wire book rack can be easily attached if desired. **Brunswick-Balke-Collender Co., Dept. CUB, 623 S. Wabash Ave., Chicago 5. (Key No. 6)**

What's New . . .

Freeline Library Table Has No Apron

The new Freeline series of library tables features a completely new design. It has no apron so that only the solid hardwood top shows on any of the four sides. There are six tables in the new line, varying in size from 3 to 10 feet long and from 24 to 42 inches wide. There is also a round table 4 feet 2 inches in diameter. Top thickness varies from 1¼ to 1½ inches.

The new design utilizes modern structural engineering methods to obtain maximum utility. The legs are machine turned to eliminate sharp edges that might chip or splinter. They are tapered into stainless steel ferrules for protection against scuffing, and splayed for maximum strength and stability. The under-table construction, indicated in the illustration, is such that the legs, ribs and keel are anchored directly to the top. Thus there is nothing to interfere with seating or armchairs. The new tables provide practical, comfortable, sturdy equipment for the library. **John E. Sjöström Company, Dept. CUB, 1717 N. Tenth St., Philadelphia 22, Pa. (Key No. 7)**

Electronic Mixer For Filmosound Projector

Users of the Filmosound 202 16 mm. magnetic recording projector can now have a simple but accurate means of mixing sound signals from microphones, phonographs and tape recorders. The new Bell and Howell Electronic Mixer and Volume Control has four separate input channels which permit their mixed use in any desired combination. The new accessory unit makes possible the recording of a magnetic sound track of professional quality.

The four input channels are readily accessible on the rear of the cabinet. Each channel can be independently operated by controls located on the front panel and identified by name plates for ease in selection. The accessory unit is self-contained and operates from any 115 volt, 50-60 cycle power supply. The output of all four channels terminates in a single cable which plugs into the microphone jack of the Filmosound 202. A set of matching headphones to permit monitoring of sound while recording is supplied as standard equipment. **Bell & Howell Co., Dept. CUB, 7100 McCormick Rd., Chicago 45. (Key No. 8)**

Roasting Pan Requires Limited Space

Designed for smaller institutions and limited oven space, the new "Turkey-Taker" Roasting Pan will hold a 25 pound turkey, yet requires minimum oven space. It has the Taste-Trough which permits the upper pan to rest into the built-in trough to seal in the juices. The pans have extra heavy-gauge aluminum to withstand severe wear and rounded corners for easy cleaning. **Harlow C. Stahl Co., Dept. CUB, 1375 E. Jefferson Ave., Detroit 7, Mich. (Key No. 9)**

Hardwood Tablet Arm Folds With Chair

The five-ply hardwood arm on the new Samson Folding Tablet-Arm Chair folds and unfolds with the chair. The chair is sturdily constructed, low in price, easy to set up and to fold, stack and store. It is balanced to prevent tip, tilt or wobble and the seat hinge is designed to prevent the possibility of cut fingers when folding.

The chair legs and frame are of electrically welded, tubular steel, Bonderized

and finished in chip-resistant baked enamel. The back rest is compound curved and the seat is concaved for extra comfort. The chair folds noiselessly and rubber feet protect floors from damage. **Shwayder Bros., Inc., Public Seating Div., Dept. CUB, Detroit 29, Mich. (Key No. 10)**

Labelon Tape For Typewriter Use

Labelon Tape for marking any smooth, clean surface, is now available for typewriter use. The flat labels, affixed to smooth-finished backing sheets, are now bound in tablet form. The new tape can be written on with any dry, blunt point as well as with a typewriter. The writing or typing is permanent. **Labelon Tape Company, Inc., Dept. CUB, 450 Atlantic Ave., Rochester 9, N. Y. (Key No. 11)**

(Continued on page 74)

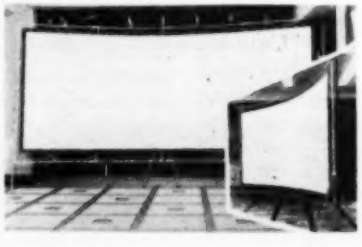
Concealed Door Hinge Combines Action With Control

Free swinging action combined with simple and accurate control are provided with the new type of toilet compartment door hinge suspension. The full suspended load and weight of the door rests on a frictionless-type thrust ball bearing. This new type of suspension, plus the needle rollers in the bearing of the upper hinge, have reduced friction so that the merest touch moves the door in any direction indicated. A bronze adjustment bushing at the base of the bottom hinge provides positive adjustment for swing of door, rest position of door and vertical adjustment of door. This permits the door to be set for rest position at any desired angle. Operating parts of the hinge are concealed within the door itself, resulting in a neat appearance and easily cleaned flush surface. Parts are thus protected from moisture and dirt, and from theft or vandalism. **The Sanymetal Products Co., Inc., Dept. CUB, 1677 Urbana Rd., Cleveland 12, Ohio. (Key No. 12)**

Portable Wide Screen For Anamorphic Projection

The new Radiant Curvex Screen is a portable unit developed for wide screen projection of 16 mm motion pictures. The new screens will be available in sizes from five feet to 20 feet wide. The picture is projected on the screen with an anamorphic or squeeze lens that shows an image which approximates the wide expanse of normal vision, giving the viewer a sense of being in the picture, without the use of special glasses.

The new screen is made with a highly reflective silver fabric and is two and one-half times as wide as it is high. The aluminum framework curves the fabric to help increase the illusion of depth and to give better reflected light distribution throughout the area of observation. Uniform brilliance from all viewing angles is claimed for the tightly laced, specially treated fabric which can also be used for three dimensional projection. When not in use the fabric may be rolled and the light weight frame folded for quick



storage in a metal case which makes the unit easy to carry. **Radiant Manufacturing Corp., Dept. CUB, 2627 W. Roosevelt, Chicago 8. (Key No. 13)**

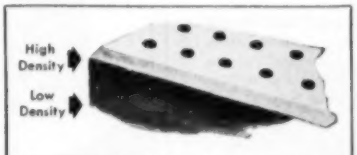
Bohler Gymnasium, Washington State College, Pullman, Washington

Yes, noise can be curbed even in the gym

Because of its cavernous construction, and because of the nature of the activities it houses, the gym is usually one of the noisiest places on the campus. But it *needn't* be! Acousti-Celotex Sound Conditioning can effectively arrest noise during even the most spirited athletic events. And, it also creates an acoustical environment favorable to good hearing for meetings, dramatic and musical presentations.

Low-Cost Method

A sound-absorbing ceiling of Acousti-Celotex Tile quiets disturbing, distracting noise not only in gyms but also in libraries, study halls, classrooms, auditoriums, music rooms, cafeterias, corridors and foyers. In addition, it improves faulty acoustics, makes distinct hearing distinctly easier. All this at surprisingly moderate cost!



DOUBLE-DENSITY—As the diagram shows, Acousti-Celotex Tile has two densities. *High density* face, for a more attractive finish, superior washability, easy paintability. *Low density* through remainder of tile, for controlled sound-absorption value.

Easy Maintenance

Acousti-Celotex Tile is quickly installed, needs no special maintenance. Its unique *double-density* feature (see diagram) provides high sound-absorption value plus a surface of remarkable beauty and washability. Can be washed *repeatedly* and painted *repeatedly* with no loss of sound-absorbing efficiency.

MAIL COUPON for a Sound Conditioning Survey Chart that will bring you a *free analysis* of the noise and acoustical problems in your school, plus a factual free booklet, "Sound Conditioning for Schools and Colleges." No obligation.

ACOUSTI-CELOTEX

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Sound Conditioning

Products for Every Sound Conditioning Problem—The Celotex Corporation, 120 S. La Salle St. Chicago 3, Illinois • In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec

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Address _____

City _____ County _____ State _____

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✓ *Every* **FEATURE**

✓ *Every* **SPECIFICATION**

✓ *Every* **PERFORMANCE** *Angle*

You'll see it **COSTS LESS**

...to buy

AMERICAN

● You'll find *top quality* in every detail of the American DeLuxe—a time-and-labor-saving machine for polishing, scrubbing, buffing, steel wooling, disc sanding and grinding all kinds of floors! It's a working beauty—with precision-made parts . . . powerful special motor . . . bar-type safety switch . . . adjustable-angle handle, easily removed for carrying . . . motor and gear box air-cooled . . . brushes go on with a click of the switch, no tools needed . . . rugged construction . . . balanced for smooth performance, perfect control!

● All these quality features in American mean *faster, better* maintenance of floors . . . utmost dependability . . . minimum upkeep expense . . . long life! Let our qualified consultant in your area call and demonstrate how American DeLuxe can save time, labor and money for you on your floors. Of course, no obligation.

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Street _____

City _____ State _____

...if only for THEIR sakes

...learn how to protect yourself from death from cancer. They need *you!*

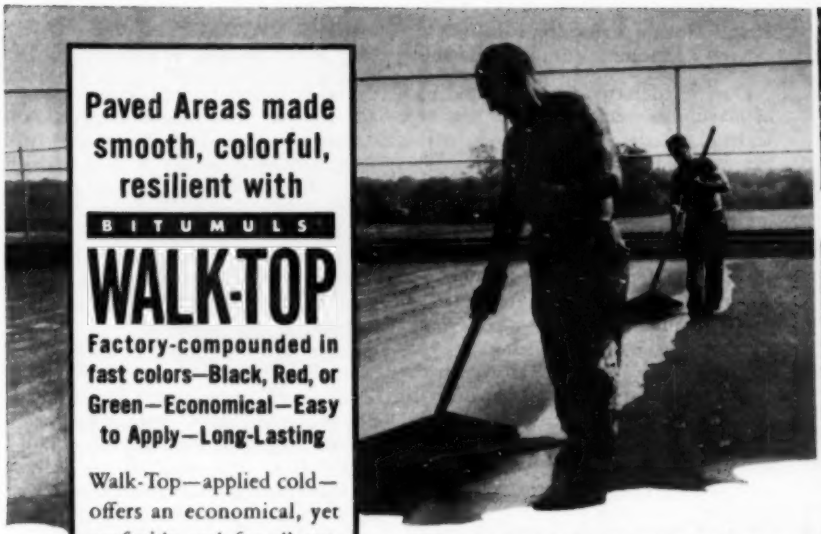
And for your sake and theirs you must keep on remembering that the best cancer "insurance" is:

FIRST...*to make a habit of periodic health check-ups no matter how well you may feel, always including a thorough examination of the skin, mouth, lungs and rectum and (for women) the breasts and generative tract.*

SECOND...*to learn the seven danger signals that may mean cancer, and go straight to the doctor at the first sign of any one of them—(1) Any sore that does not heal (2) A lump or thickening, in the breast or elsewhere (3) Unusual bleeding or discharge (4) Any change in a wart or mole (5) Persistent indigestion or difficulty in swallowing (6) Persistent hoarseness or cough (7) Any change in normal bowel habits.*

For other life saving facts about cancer, phone the American Cancer Society office nearest you, or address your letter to "Cancer"—in care of your local Post Office.

American Cancer Society



Paved Areas made smooth, colorful, resilient with

BITUMULS

WALK-TOP

Factory-compounded in fast colors—Black, Red, or Green—Economical—Easy to Apply—Long-Lasting

Walk-Top—applied cold—offers an economical, yet profitable seal for all surfaced areas. In all parts of the country, Paving Contractors and "Hot-Plant" operators stock Walk-Top to supply the current demand for smooth, colorful seal that is grit-free, resilient and weatherproof.

Green Walk-Top surrounds the Statue of Liberty on Bedloe's Island, New York

Home-owners are proud of their neat, distinctive "Walk-Top sealed" driveways

FOR PLAY AREAS—From coast to coast, Walk-Top is *standard* for sealing school yards and other play areas. (San Francisco sealed over 2,000,000 sq. ft. last year!)

WALKS AND PARKING AREAS—Walk-Top is used extensively to provide a smooth, fast-draining and void-filling seal.

FOR DRIVEWAYS—For a clean, enduring and colorful seal, apply Walk-Top cold over the old pavement with brush or squeegee.

Walk-Top is available through Dealers and Contractor-Distributors.

Write for free illustrated booklets, A-16 and B-20.

AMERICAN Bitumuls & Asphalt COMPANY

200 BUSH STREET, SAN FRANCISCO 4, CALIFORNIA

E. Providence 14, R. I. Perth Amboy, N. J. Baltimore 3, Md. Mobile, Ala. Columbus 15, Ohio Tucson, Ariz. Seattle, Wash. Baton Rouge 2, La. St. Louis 17, Mo. Inglewood, Calif. Oakland 1, Calif. Portland 7, Ore. Washington 5, D.C. San Juan 23, P. R.

WHY BUY 3 to 5 CANS when only one will do?

No—a **WITT CAN** won't hold more than any other Can of equal capacity. However—**WITT CANS** are ***guaranteed to outlast 3 to 5 ordinary Cans.*** Here's an offer of reduced purchases and dollar savings worth investigating. Perhaps you're wondering why **WITT CANS** last so long. Here are just a few reasons:

STRAIGHT SIDES—assure extra resistance to rough handling.
DEEP ROLLING CORRUGATIONS—run full length of Can, adding further rigidity.
HEAVY GAUGE STEEL—provides battleship ruggedness.
STRUCTURAL STEEL BANDS—protect top and bottom of Can and act as shock absorbers.
HOT DIP GALVANIZING—a hand process after fabrication, insuring heaviest possible rustproofing.
PINCH-PROOF HANDLES—for easy handling.
STURDY LID—snug fitting, yet easy to remove.

Witt Cans "Originators of the Corrugated Can"

WITT CANS HAVE THE "RIGHT" ANGLE

THE WITT CORNICE COMPANY, 2123 WINCHELL AVENUE, CINCINNATI 14, OHIO

durable AND *Smart* FURNITURE

Wall-Saving Easy Chair

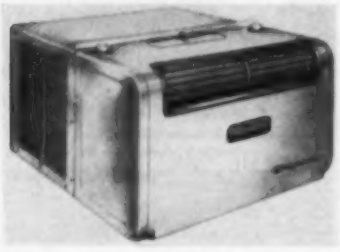
No. 8117

For prices and complete information on furniture for dormitory, dining hall, library and student lounge, see your dealer or write us.

AMERICAN CHAIR COMPANY
MANUFACTURERS
SHEBOYGAN WISCONSIN

What's New . . .

Room Air Conditioners Mark Silver Anniversary



Two new "Silver Anniversary" models of Frigidaire Room Air Conditioners are being introduced. The Twin series consists of ¾ and 1 h.p. units and the Super offers ⅓ and ½ h.p. units. The Twin series models each have two complete refrigeration systems, with rotary-type Meter-Miser compressors sealed for lifetime operation. The design gives the effect of two air conditioners in one, with one or both of the systems operating, depending upon outside weather conditions. These models will be available with supplementary High-Flow Heating. The Super series models are similar but not as wide, as each has only one Meter-Miser refrigeration system.

The cabinets of all models are of heavy-gauge steel with plastic air delivery grilles and "Coca-Rio Beige" color styling with gold and chrome trim. Air is directed in any horizontal direction desired, providing the Frigidaire "Great Circle Cooling" without objectionable drafts. The design and insulation ensure quiet and all units have optional thermostat control for fully automatic operation. **Frigidaire Division, General Motors Corp., Dept. CUB, Dayton 1, Ohio. (Key No. 14)**

Variety of Type Faces Available For Stencils

A new model of the Vari-Typer has been developed for the preparation of mimeograph stencils with a variety of print-like faces, in various styles and sizes. Known as the "Stencil-Writer," the machine was designed for the composition of reading matter from changeable type fonts. Yet the selection and use of type is no more involved than switching blades in a safety razor.

As many as 15 type fonts, each complete with upper and lower case, symbols and punctuation marks, is contained in the drawer at the base of the machine. A selection of any two type fonts fits into operating position at one time and change from one to the other is accomplished by turning a knob. An electrically controlled impression mechanism gives each character the same uniform impact, regardless of the touch of the operator. **The Ralph C. Coxhead Corporation, Dept. CUB, 720 Frelinghuysen Ave., Newark 5, N. J. (Key No. 15)**

Hand Nozzle Provides Efficient Vacuum Cleaning

Dust is collected directly in the path of maximum suction with the new type of hand nozzle recently introduced for use with industrial and commercial vacuum cleaners. The steel back horse hair brush snaps into two spring clips in the center of the nozzle opening. Prolonged field tests have shown this new type of nozzle to be highly efficient in dust and lint pickup. The nozzle is made of polished aluminum with resilient plastic bumper to prevent scratching or marring of surfaces. A 6 inch shank on the nozzle serves as a hand grip after insertion into the hose. **Breuer Electric Mfg. Co., Dept. CUB, 5100 N. Ravenswood Ave., Chicago 40. (Key No. 16)**

Convert Recreation Areas With Portable Backstops

Limited use gymnasium and auditorium space, parking lots, tennis courts and other recreational areas can be converted for additional use with the Wells BR24-P Portable Basketball Backstop.

It is designed for safety with an extended goal. The heavy plywood bottom prevents marring of gymnasium floors.

The fan shaped backboard is supplied in either steel or plywood and the unit has an official regulation tie-less goal. The backstop is constructed for years of hard service. **Wells All-Steel Products, Dept. CUB, 6738 Lankershim Blvd., N. Hollywood, Calif. (Key No. 17)**

Onion Soup Mix For Quantity Cooking

A new French Onion Soup mix for quantity cooking has recently been introduced. Developed by Constance Conover, Quality Food Recipes Director, the soup is prepared merely by adding water to the mix and allowing it to simmer for approximately 25 minutes. The mix contains dehydrated onions and is seasoned with spices. It produces a tasty, nourishing soup at a low cost, with a minimum of effort. **Continental Coffee Co., Dept. CUB, 375 W. Ontario St., Chicago 90. (Key No. 18)**

(Continued on page 76)

Louvered Windows Have Sealed Weatherstripping

Seal-Vent Seal-Tested Jalousie windows are 100 per cent weatherstripped with new, lifetime vinyl plastic weatherstripping developed by the B. F. Goodrich Company. The new attractive, practical weather-tight louvered window features a "Seal-Frame" that seals the louvers against the weatherstripping when the window is closed, providing a tight closing that has had exhaustive tests to prove its weather-tightness.

Extra heavy extrusion is used in the construction of the Seal-Vent Window. Inside screens are mounted flush for easy cleaning and storm sash attachments permit maximum ventilation on mild winter days. The windows are the result of three years of research and testing and feature unbroken lines to fit into any architectural design. **American Aluminum Products, Inc., Dept. CUB, Miami, Florida. (Key No. 19)**

Folding Grandstand For Indoor Seating

Designed primarily for indoor spectator seating, the Model D-866B is a mechanical folding grandstand. It can be telescoped or folded against the wall when not in use, thus making valuable floor space available for other uses. When needed it is simply brought out and provides a safe bleacher. It has been designed to meet the requirements of the most rigid State Code specifications for bleachers.

The Rigid Rear Weldment of 1½ inch square tubing provides the receiving chamber under which the movable tiers are folded in the closed position. This sturdy construction includes diagonal braces to resist side sway loads from either direction. An automatic brake locks the bleacher in the extended position for use. All wood parts are treated with a preservative, sanded and sprayed with three layers of clear varnish. A double wheel arrangement permits adjusting the bleacher to compensate for floor irregularities. The Ez-A-Way is easily opened and closed and an adequate number of wheels have been pro-

vided for safety under the most severe conditions of loading. **Berlin Chapman Company, Dept. CUB, Berlin, Wis. (Key No. 20)**

STORE TABLES QUICKLY, EASILY

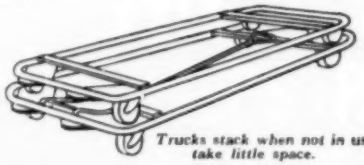
with

BTC TABLE TRUCKS

Solve your table storage problems by relying on new space-saving, time-saving BTC Table Trucks. These sturdy trucks hold 12 oblong tables, stacked top to top to protect surfaces in storage. They take a minimum of space . . . allow one man to handle the entire gather-move-store operation. Trucks have steel tubing frame, 68" x 32", all-steel detachable handle, 5" ball bearing rubber-tired wheels.

WRITE FOR FOLDER

BTC



Trucks stack when not in use, take little space.

THE BREWER-TITCHENER CORPORATION, CORTLAND, N. Y.

NEW LOWER PRICES!

American Seating

FOLDING CHAIRS

Outlast all others!

Unequaled for

STRENGTH • CONVENIENCE

COMFORT • SAFETY

All with super-strength triangular-steel tubing construction and four steel cross braces shouldered and riveted.

3 popular seat styles!
Formed Birch Plywood
Formed Steel
Imitation-Leather Upholstered

OVER 10 MILLION NOW IN USE! OUTNUMBER ALL OTHERS IN SCHOOL USE

MAIL COUPON TODAY!

AMERICAN SEATING COMPANY, Dept. 12 • Grand Rapids 2, Michigan

☐ Please send latest brochure on AMERICAN SEATING FOLDING CHAIRS.
☐ I am interested in _____(quantity) ☐ Birch seats ☐ Steel seats ☐ Upholstered seats.

Name _____ { Church _____ School _____

Street _____

City and Zone _____ *State* _____

ACCIDENT · SICKNESS AND ACCIDENT & CAMP PLANS
EDUCATIONAL INSURANCE
SINCE 1930
TUITION REFUND PLANS

In case of withdrawal both College and Student are protected by the

TUITION REFUND PLAN

There are two forms of the Tuition Refund Plan — the original Plan and the new Broad Form. The original Plan repays the cost of class time lost because of sickness and accident. The new Broad form (available now in many states) gives the same protection and also covers dismissal or withdrawal for scholastic, disciplinary and family reasons, as well as many others.

The following examples show exactly what the refunds would be under the Broad Form in certain specific cases.

EXAMPLE No. 1 — A student has paid a full semester fee of $200, but withdraws at the end of nine weeks.

EXAMPLE No. 2 — A student, having paid $100 and agreed to pay $100 balance, withdraws at the end of one month.

	EXAMPLE No. 1		EXAMPLE No. 2	
Reason	To Student	To College	To Student	To College
Illness	$100	—	$55.56	$100
Accident	$100	—	$55.56	$100
Dismissal	$75	—	$16.67	$100
Voluntary	$60	—	—	$93.34

Either Plan is flexible and can be adapted to your needs. Each applies to boarding fees as well as tuition and to term, semester or annual payments.

Write for information telling us your enrollment terms, number of students and fees.

A. W. G. DEWAR
INCORPORATED
Educational Insurance Underwriters
141 Milk Street **BOSTON** Massachusetts

What's New . . .

Modern Design in Dormitory Furniture

A new line of metal furniture for dormitory rooms has been brought out by Royal. Designed by Cedric Errol Millspaugh, the new dormitory line has been planned for low cost maintenance and durability, as well as for contemporary styling and beauty. Beds, dressers, chests, wardrobes, cabinets, nightstands, writing desks, tables and mirrors are included in the new line. Arm, side and lounge chairs in the square tubular steel stylings have been blended with the new dormitory groupings.

Features in the design of the new line include modern pedestal-type island base construction, set in from the outside edge of the furniture for easy cleaning of the room and limited possibility of damage to the furniture. Dresser, chest, desk and table tops are of one-piece, all welded bonderized metal or self-banded Formica. The tops are easily cleaned, durable and resistant to burns. They are replaceable separately. The new line is available in plastelle enamel finishes in any of eleven solid colors or two-tone combinations. **Royal Metal Mfg. Co., Dept. CUB, 175 N. Michigan Ave., Chicago 1. (Key No. 21)**

Individual Room Control In Year-Round Air Conditioning

Individual room control of air comfort for any season of the year is possible with the new Dunham Vari-Temp Heating - Cooling - Ventilating Cabinets. The cabinets are neat, compact package units that can be floor mounted, vertically wall mounted, mounted flat on ceilings or inverted on walls. The same riser supplies hot water for heating and chilled water for cooling. Two blower fans mounted directly on double-end shaft motors eliminate external bearing, pulley and belt trouble. Rubber cushioning eliminates vibration in the manual mixing damper.

Aluminum fins on copper tubes supply heating and cooling elements. All elements are interchangeable for left or right hand supply. Cabinets are of 18-gauge furniture steel with end compartments that contain all piping and wiring. The removable front provides easy access to fans, heating element and replaceable filters. **C. A. Dunham Co., Dept. CUB, 400 W. Madison St., Chicago 6.(Key No. 22)**

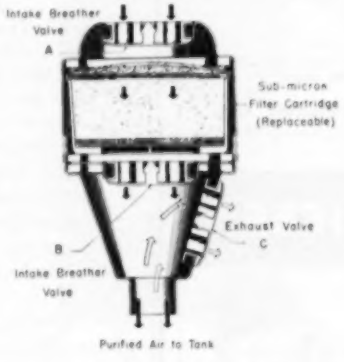
Power Leaf Mill Eliminates Leaf Raking

A new machine has been introduced for care of grounds which eliminates the need for leaf raking. The Turbo Jet Power Leaf Mill simplifies the problem of maintaining large grounds as it gathers and pulverizes fallen leaves, blowing the fine chaff back into the lawn as a mulch. Grounds are not only cleared of leaves, but the lawn is benefited.

The Turbo Jet is easy to operate and will also clean leaves out of ivy beds, from around curbs, copings and fences, shrubs and other difficult locations. It has low operating and maintenance costs and is constructed for long wear. **The Turbo Jet Mfg. Co., Dept. CUB, 22 Bowman Terrace, Cincinnati 29, Ohio. (Key No. 23)**

Water Purity Safeguarded By Barnstead Ventgard

The Barnstead Ventgard is a new development designed to provide a purity safeguard for distilled or demineralized water. It filter-breathes pure air



into the storage tank and prevents contamination of pure distilled water from air-borne bacteria, dust, organics, alkali or acid gases. **Barnstead Still & Sterilizer Co., Dept. CUB, 124 Lanesville Terrace, Forest Hills, Boston 31, Mass. (Key No. 24)**

Standby Power With Emergency Plants

Designed to provide dependable, economical electric power for both primary and standby applications, the two new Onan "HQ" 10,000 and 15,000 watt Emergency Electric Plants are gasoline-driven. They are powered by Continental 4 cylinder, water-cooled engines and are compact and streamlined in appearance. Features of the new models make starting easier and faster and facilitate servicing of batteries. The new series is available in all standard voltages, frequencies and phases. **D. W. Onan & Sons Inc., Dept. CUB, 6251 University Ave., Minneapolis 14, Minn. (Key No. 25)**

(Continued on page 78)

Chalkboard and Trim in Kompo-Thrift Line

Chalkboards, tackboards and trim are offered in the new Loxit-Tylac Kompo-Thrift line. The Kompo-Thrift line is built on quality while offering economy in the cost of installation and in maintenance.

Kompo-Cite chalkboards are available in ¼ and ½ inch, in two colors, Standard Rite Green and Darkrite Green. The backing of the new boards is untempered Masonite which is tempered by the Loxit process, and the finish is two coats, both treated with plastic-resin compound, converted to a hard, non-porous finish by high temperature baking. Kompo-Thrift tackboards are available mounted or unmounted, in close-grained or marbled finish.

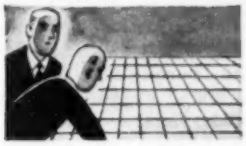
Designed for boards ¼, ⅜ and ½ inch thick, Kompo-Thrift trim is available in four permanent colors, Rite Green, Darkrite Green, Ivory and Tan. Fabricated from tempered Masonite, the trim is finished with the same plastic-resin compound used for chalkboards, converted to a hard, non-porous finish to make the trim waterproof, vermin-proof and fire-resistant. The trim can be washed, or kept clean by wiping with a damp cloth. Loxit map rails, chalktroughs and accessories, fabricated from 63-S aluminum alloy and anodized with Loxit Glo-Dull finish, are used with the trim. **Loxit Systems, Inc., Dept. CUB, 1217 W. Washington Blvd., Chicago 7. (Key No. 26)**

Plastic Binding Unit For Desk-Top Use

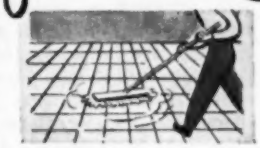
The PB-5 Combo is a desk-top unit for low-cost plastic binding that can be used even in a small institution. It handles both punching and binding operations on the same machine, thus simplifying the procedures. Loose sheets of all sizes and types can be quickly and easily plastic bound with the new machine. The unit is compact and easy to handle. It punches ten to fifteen pages at a time and is built for years of service without maintenance. It occupies a minimum of

space on a desk and fits into a desk drawer. **General Binding Corp., Dept. CUB, 812 W. Belmont Ave., Chicago 14. (Key No. 27)**

Why make a Safe Floor Slippery?



Hours of labor time are spent in treating expensive floors for slip-resistant beauty.



When an oily floor dressing is chosen that softens the wax film or leaves an oily residue.

A slippery floor condition results that may cause costly accidents.

HIL-SWEEP KEEPS FLOORS SAFE

the new, safe way to daily dust up!

Leaves Floors Cleanly Fresh and Dust-Free

Will Not Soften Wax Film
Leaves No Oily Residue
Won't Decrease Frictional Resistance

Make a Date

with the Hillyard Maintaineer to demonstrate HIL-SWEEP on your floors

There's nothing on the market to compare with Hil-Sweep for daily maintenance. Clear, transparent, clean-smelling, Hil-Sweep picks up dust, leaves a lustre-new look with no harmful effect on your surface treatment. Surface treatment lasts longer. You save labor-time in sweeping and daily maintenance of your floors. Mail coupon below for a demonstration. Advice and help are free.

. . . on your staff not your payroll

Branches in Principal Cities

Hillyard Chemical Co., St. Joseph, Mo.

..... Please give me full information on Hil-Sweep.
..... Please have the Hillyard Maintaineer make a Hil-Sweep demonstration on my floors. No charge.

Name ..... Title .....
Institution .....
Address .....
City ..... State .....

And Here are Other Good Reasons Why HIL-SWEEP is "Sweeping" the Country

- Hil-Sweep is non-injurious to asphalt tile . . . the result of years of research to develop a maintainer that would be safe for daily care of resilient and all other types of floors.
- Rags saturated with Hil-Sweep will not burn, eliminates fire hazard in use or spontaneous combustion of mops in storage. No flash point.
- Contains no emulsified oils, leaves no oily residue to darken, discolor, soften or bleed colors.
- Spray it or sprinkle it on brush, mop or dust cloth.
- Won't load mop. After using simply shake out and brush or cloth is ready to use again. Saves on laundry and dry cleaning bills.
- Imparts a pleasant aroma where used.

What's New . . .

Howe Banquet Table Allows Maximum Seating

A new pedestal-leg type folding banquet table has been added to the line of Howe Folding Furniture. The new table features all steel chassis, strong, foolproof lock with self-tightening principle, two separate braces for each pair of legs, and legs of 1¼ inch tubing with brazed joints. The retreating leg action is designed to allow maximum seating at both sides and ends of the table. When folded, the table occupies only 1⅞ inches in width. Masonite, Formica or linoleum tops on plywood are available on the tables which come in 30 by 48, 30 by 72, 36 by 72, 30 by 96 and 36 by 96 inch sizes, 29 inches high. **Howe Folding Furniture, Inc., Dept. CUB, 1 Park Ave., New York 16. (Key No. 28)**

Vinyl Asbestos Tile In Brilliant Colors

VinylBest is the name of a new vinyl asbestos tile recently added to the Gold Seal line. It is available in seventeen patterns in brilliant colorings in swirl marble. It is designed for installation over on or below-grade concrete floors in contact with the ground, as well as over the usual suspended wood and concrete floors. It makes a sturdy, long-wearing floor for institutional or commercial use.

The new tile has a high resistance to acids, alkalis, cooking grease and vegetable fats. It is manufactured in 9 by 9 inch squares in 13 patterns in the commercial weight and 12 patterns in household weight. **Congoleum-Nairn Inc., Dept. CUB, 195 Belgrove Drive, Kearny, N. J. (Key No. 29)**

Plastic Container For Library Adhesive

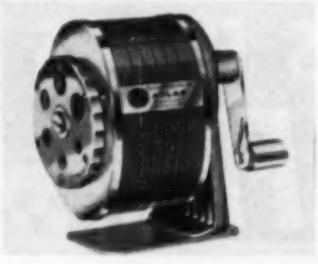
A new convenient container is now being used to package the library adhesive known as Magic-Mend. The handy plastic squeeze half-pint bottle makes it easy to repair books and bind periodicals in a minimum of time at small cost. To use, the spout is pointed, the bottle squeezed and the adhesive easily spread where needed with the side of the applicator top. It provides a quick, simple, economical method for applying the adhesive without messiness or waste. **Gaylord Bros., Inc., Dept. CUB, P. O. Drawer 61, Syracuse 1, N. Y. (Key No. 30)**

3-D Converter For 16 MM Films

The new DeVry 3-D Converter has been designed to permit three-dimensional showings of 16 mm. sound motion pictures. The device can be attached to almost any two 16 mm. projectors to convert to three-dimensional showings of 16 mm. films. **DeVry Corporation, Dept. CUB, 1111 W. Armitage Ave., Chicago 14. (Key No. 31)**

Durable All-Steel Pencil Sharpener Developed for School Use

Designed to fill the need for a low cost pencil sharpener that will withstand constant and rugged usage, the new Apsco Atlas is of all-steel construction. The frame of heavy gauge steel is welded to a solid steel base. Three screw holes permit rigid permanent installation. The replacement ring gear and bearing make it unnecessary to demount the base after the initial installation. The heavy duty cutter head and cutter are designed for



easy installation or replacement of cutters when needed.

The Atlas is finished in gray hammerloid with chrome trim. It can be mounted on a wall, window sill, desk, under shelves or in any other suitable location. **Apsco Products Inc., Dept. CUB, 336 No. Foothill Rd., Beverly Hills, Calif. (Key No. 32)**

Waste Interceptor Is Self-Cleaning

The G.M. Call Non-Stop Interceptor Waste-Trap is so designed as to eliminate stoppage of any kind at any time. It is durably constructed and has received highest rating by the New York Testing Laboratory, according to the manufacturer. The Interceptor is self-cleaning and sanitary, prevents waste stoppages in the drainage system, intercepts jewelry and other valuables which may be accidentally dropped in waste lines, and is easy to install. The large water seal eliminates sewer gas, odors and back pressure. Suds and washing powders are dissolved and food particles are washed away. **C. & H. Plumbing Specialties, Dept. CUB, 3148 Bruckner Blvd., New York 61. (Key No. 33)**

(Continued on page 80)

Electric Steamer For Fast Cooking

Frequent fresh preparation of cooked foods is possible with the new Model ST-E Steam-It. It is a new electric, automatic, insulated counter model pressure cooker which combines maximum cooking speed with minimum power consumption. Cooking is done in standard cafeteria pans, perforated or solid, depending upon the food being prepared. The clock is set at the proper cooking time when the food is placed in the cooking compartment and the automatic operation turns off the heating elements and allows the steam pressure to escape.

The unit is equipped with standard safety devices and features an inside self-sealing door which cannot be opened when there is any steam pressure. The unit is compact and easy to install. It is designed for counter installation but a stainless steel stand can be furnished if required. **Market Forge Co., Dept. CUB, Everett, Mass. (Key No. 34)**

Fiberglas Light Diffuser Reduces Glare

Panels of Fiberglas fabric have been developed to diffuse light and reduce the problem of sunlight glare in the classroom. Placed at windows in the path of the sun's rays, the fabric converts even the most intense sunlight into soft, glare-free light that is evenly diffused throughout all parts of the room. The glass yarns act as tiny diffractors, resulting in a high and even degree of diffusion.

Panels are easily installed. Wooden frames with fabric drawn taut over them are fastened to window sashes at the proper angle. The fabric will not burn or rot, even after prolonged exposure to bright sunlight, is easily washed in warm water and soap, and the panels are low in cost. The idea has been tried out in certain areas over a period of years and the results have been so satisfactory that the manufacturer is making

the panels generally available. **Owens-Corning Fiberglas Corporation, Dept. CUB, 16 E. 56th St., New York 22. (Key No. 35)**

TO: The President
FROM: The Registrar

SUBJECT:

Use of IBM Machines in Smaller Colleges

I have investigated several small college installations of IBM equipment and find that our administrative and accounting work can be handled by only 3 IBM Machines.

Here's how the same machine methods can benefit us:

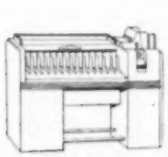
1. Simplified Registration—All basic information relating to students is punched into IBM cards from which lists, records, and analyses are prepared rapidly, automatically. Clerical effort is reduced, manual listing completely eliminated. Work flows smoothly—without piling up during the busy registration period.

2. Accurate Class Enrollment—Each class is represented by a prearranged number of IBM cards. This keeps the number of students assigned per class under constant control.

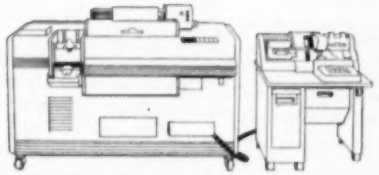
3. Positive Student Records—Schedules, schedule changes, add and drop lists, grade reports—all current facts regarding each student's status and course schedule are furnished promptly. All records are in agreement because they are machine-prepared from the same IBM punched cards.

4. Effective Administrative Records—More efficient control results from the variety of reports made quickly available by the IBM method. The Teaching Load Report provides information for planning schedules, assigning classrooms, and equalizing teaching loads. Grade Analyses provide accurate data for establishing teaching and grading standards. Other reports provide facts on which to base policies and decisions.

This basic IBM installation for colleges is available at low cost. It can also be used for Budgetary Control, Payroll work, Accounts Receivable and Payable, and other necessary accounting. Shall I call in an IBM representative for a complete discussion?



082 Sorter



402 Accounting Machine 526 Summary Punch

IBM
TRADE MARK

INTERNATIONAL BUSINESS MACHINES
590 Madison Avenue, New York 22, N. Y.

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Libbey Glass

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12 Door Hinge
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These cards are detachable and are provided for the convenience of our subscribers, and those to whom they pass their copies, in obtaining information on products and services advertised in this issue or described in the "What's New" Section.

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CHICAGO, ILL.
PERMIT NO. 136
SEC. 34.9 P. L. & R.

BUSINESS REPLY CARD
No Postage Stamp Necessary if mailed in the United States

3 CENT POSTAGE WILL BE PAID BY

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919 NORTH MICHIGAN AVENUE
CHICAGO 11, ILLINOIS

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PERMIT NO. 136
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January, 1954

Please ask the manufacturers, indicated by the numbers I have circled, to send further literature and information provided there is no charge or obligation.

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What's New . . .

Product Literature

• How **"Johns-Manville Asbestos Flex-Board Answers a Thousand Building Needs"** is answered in a 12 page brochure published by Johns-Manville, 12 E. 40th St., New York 16. The non-combustible asbestos-cement building board is available in two sizes and the brochure describes how it is formed, handled, worked and applied. Sketches, detailed drawings and photographs are used to illustrate the descriptive text. **(Key No. 36)**

• **"Floors and Floor Problems"** is the title of a new 24 page brochure on floor maintenance issued by Tremco Manufacturing Co., 8701 Kinsman Road, Cleveland 4, Ohio. Photographs, drawings and diagrams are used to illustrate the discussion of various types of floors, how they are built, what factors enter into their deterioration, and how floor troubles can be diagnosed and treated. The information is based on actual field experiences. The booklet is divided into ten sections and is fully illustrated. **(Key No. 37)**

• A new folder issued by Herman Miller Furniture Company, Zeeland, Mich., features **selections of functional modern furniture** designed by George Nelson and Charles Eames. Furniture illustrated and described is particularly suited to use in classrooms, libraries, offices and public areas of institutions. Special emphasis is placed on units engineered for hard usage and easy upkeep. Included in the folder are chairs, tables, storage units, desks and upholstered pieces. Specifications on each of the designs are given and interior planning aids prepared by Herman Miller are described. **(Key No. 38)**

• **How to Choose an Organ"** is the title of a booklet recently issued by Connsonata, Elkhart, Ind. The booklet covers the essentials to be considered in evaluating electric and electronic organs and is designed to help answer the question, "Which organ should I buy?" **(Key No. 39)**

• An attractive new **catalog of Stage Equipment** has been published by the Great Western Stage Equipment Co., 1524 Grand Ave., Kansas City 6, Mo. The 1953 catalog presents a guide to planning a new stage, with drawings. This is followed by catalog information and photographs of the complete line of stage equipment manufactured by the company, including stage and auditorium window curtains, drapery and asbestos curtains, seat cushions, interior and exterior scenery, settings and flats, water colors, spotlights and other stage lighting and dimmers, stage hardware and rigging, and miscellaneous equipment. **(Key No. 40)**

• How a school or college can have its own greenhouse at a modest cost is discussed in a folder and price list released by Aluminum Greenhouses Incorporated, 14615 Lorain Ave., Cleveland 11, Ohio. Photographs of actual greenhouses are shown in the folder, which illustrates lean-to and free-standing models with diagrammatic drawings. Entitled **"Your Garden Under Glass,"** the folder gives detailed information on these Everlite prefabricated aluminum greenhouses, the comparative ease with which they can be installed, their long life and maintenance-free utility. Of particular interest are two roof-top school installations, one installed by the school system's regular maintenance employes on an existing building, and the other done by the contractor on a new structure. **(Key No. 41)**

• Every school locker requirement can be met by the equipment described in the new **Locker Bulletin 601-B** issued by Lyon Metal Products Incorporated, Aurora, Ill. Detailed information on single tier, double tier, multiple tier and specially sized lockers, pupil lockers for elementary schools, teachers' storage and wardrobe lockers, locker baskets and benches, and details of construction are discussed and illustrated in the catalog. There are two pages of photographs of actual installations. **(Key No. 42)**

• The new **Pictorial 48 page Catalog** issued by The George F. Cram Company, 730 E. Washington St., Indianapolis, Ind., illustrates and describes its full line of globes, maps, charts and atlases. The book is illustrated in full colors. Cram maps and globes are realistically graded to fit the mental maturity of students in various age groups, thus making it possible to create greater student interest with more gratifying results in the classroom. **(Key No. 43)**

• **"How to Cut Your Decorating and Maintenance Costs"** is the title of a folder issued by L. E. Carpenter & Company, Inc., Empire State Bldg., New York, 1. It contains information on Vicrtex V.E.F. soil, stain and flame resistant fabrics which do not crack, scuff, fray or peel and can be wiped clean with a damp cloth. The fabrics are designed for use in upholstery, wall covering and furniture treatment and swatches of the material are attached to the folder. **(Key No. 44)**

Catalog 98, issued by Kewanee-Ross Corporation, Kewanee, Ill., contains full descriptive information on the M-800 Series Boilers for high and low pressures, designed for oil or gas firing. Quality features of the boilers with detailed listings of ratings, dimensions, standard equipment and trim, are included. **(Key No. 45)**

• Complete specifications on 25 to 37 passenger **Flxible buses for schools and universities** are given in a new 4 page leaflet issued by The Flxible Company, Loudonville, Ohio. Cross-sectional diagrams show seat positions, luggage space and other features of these attractive, comfortable and economically operated buses. Virtually any type and color of paint design is available on Flxible buses at no extra charge and the leaflet illustrates various models now used by schools and colleges. **(Key No. 46)**

• A new line of fabricated panels with porcelain enamel on steel or aluminum surfaces for exterior walls is introduced as **Ing-Rich Insulated Porcel Panels.** They are described in a new 8 page brochure issued by Ingram-Richardson Manufacturing Co., 1952 McMillan St., Beaver Falls, Pa. Also described is **Ing-Rich Porcel Insulated Paneling** which is available with porcelain enameled metal on both sides of the core, or with porcelain enameled metal on the outside face and other material on the opposite side, for curtain wall construction. The brochure also contains information on non-insulated types of Ing-Rich Porcel Panels for exterior and interior walls, trim, ceilings and other uses. Classroom and corridor installations are shown in the illustrations. **(Key No. 47)**

• Quantity recipes for the new **"Soufflé Salads"** developed by General Foods Corp., Consumer Service Dept., 250 Park Ave., New York 17, are now available from the company. These appetizing, inexpensive additions to the menu can be prepared in a relatively short time. **(Key No. 48)**

Suppliers' News

American Air Filter Co., Inc., 215 Central Ave., Louisville 8, Ky., manufacturer of a complete line of air filter and dust control equipment, and of the **Herman Nelson** line of heating and ventilating equipment, announces the purchase of **Illinois Engineering Company, Chicago.** The Chicago firm manufactures a line of valves, traps, expansion joints and steam control systems.

Mayline Company is the new corporate name of the company formerly known as **Engineering Manufacturing Co.,** manufacturer of drafting room furniture and equipment. The company continues at **315 N. Commerce St., Sheboygan, Wis.**

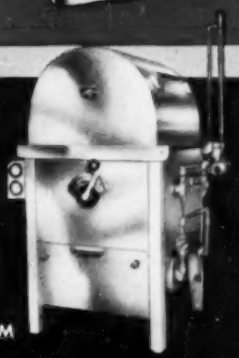
Pickett & Eckel, Inc., 1100 S. Fremont Ave., Alhambra, Calif., manufacturer of school and drafting supplies, announces that it has taken over the sale of the **Paraline,** single-unit pocket drafting device, that combines the functions of T-square, triangles, straight-edge, scales and protractor in one unit, without adjustments or additional parts.

This is Money?

You bet! It's money saved or money wasted —depending on how *fast* you wash them—how *clean* you wash them—and what the job costs. It's just about the most sensitive money spot—problem spot—in your whole kitchen operation.

And as any dishwasher popularity poll will prove, Hobart has every answer to that problem. There's no higher sanitation standard than that provided by the cardinal Hobart dishwasher principle that either the dishes must move, the water-pattern must move, or *both* must move. There's no better output or economy standards—with Hobart offering a choice of 22 capacities; large and small; semi-automatic, fully automatic and flight type continuous racking—so you can fit the machine economically and efficiently to the job. And Hobart has the highest performance and service standards. Add it all up and you see why the sooner you talk with our representatives, the sooner you'll be money ahead . . . . . ***The Hobart Manufacturing Company, Troy, Ohio.***

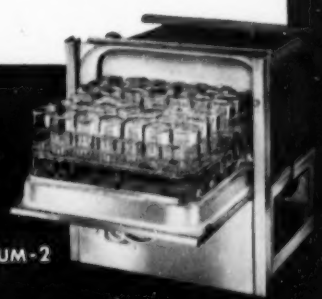
Model AM-7



Model LM

Wash Them Cleaner at a Savings . . . and You Clean Up Two Ways . . . Dish Scrapper can be used with automatic models XM-4, CM-2, GM-2 and XXM-4.

Model XXM-4
with Model DS Dish Scrapper



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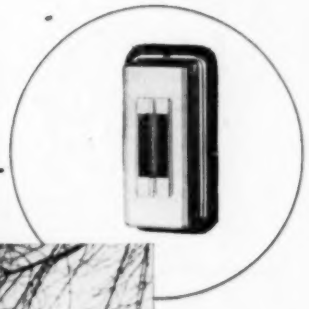

JOHNSON

V-111 Unit Ventilator and Convector Valve

CONTROL

D-104 Unit Ventilator Damper Operator

Engineering Building, University of North Dakota, Grand Forks, N. D. Wells and Denbrook, architects and mechanical engineers; Lunseth Plumbing and Heating Co., heating contractors; both of Grand Forks.

Today's modern college buildings, large and small, are equipped with Johnson Automatic Temperature Control Systems not only to provide student and faculty comfort but to insure the lowest possible operating cost.

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